EXECUTIVE SUMMARY
SOLICITATION DAAD19-02-R-0008

1.   Background: The Army High Performance Computing Research Center Program, hereinafter called "the program," consists of two components: (1) a research component in computational sciences and engineering; and (2) an infrastructure support component. The research component is being performed under a cooperative agreement that was awarded in August 2001 to the University of Minnesota and a team of partner educational institutions. Currently, Network Computing Services (NCS), Inc., Minneapolis, Minnesota is under contract for the support infrastructure component of the program, and this contract expires 9 January 2003. This solicitation is for the establishment of a contract for the continuation of the infrastructure support component.

2.   Scope: Under this contract, the contractor shall be required to provide a Core site to house, maintain, support and operate significant existing High Performance Computing (HPC) resources and auxiliary systems with security considerations. The contractor shall also be required to identify, procure, install and integrate, new/novel HPC resources. The Government is responsible for dismantling, packing and moving the existing Government Furnished Property (GFP), currently at NCS, to the contractor's Core Site. The contractor will be responsible for, and must assume the cost of, preparing the core site and installing and integrating these HPC resources into an operational computing environment. The contractor will also be required to maintain and assist in the operation of the systems at the partner institutions, maintaining network inter-connectivity between all partners and to identify, procure, install and integrate replacement systems as existing systems become obsolete. The contractor shall be required to provide high-level staff scientists to support Army scientists primarily at Army locations and to support researchers at universities performing under the Cooperative Agreement. Staff scientists must have advanced degrees in technical disciplines, e.g. computer science, physical sciences, chemistry, engineering with specialized expertise in High Performance Computing. The contractor will be required to have a Secret facility clearance in support of the Staff Scientist Program. The contractor shall be required to promote technology exchange through, training, publication, education and other outreach efforts to exploit the HPC resources. (See Section C for the complete scope of work for this contract.)

3.   Contract Type: The resulting contract will be awarded as an Indefinite Delivery, Indefinite Quantity (IDIQ) contract under which task orders will be issued for the required effort. Task Orders are expected to be awarded on both a Cost-Plus-Fixed-Fee (CPFF) Completion basis and Firm-Fixed-Price (FFP) basis as appropriate. The ceiling amount for this contract will be $98,000,000.00. The period of performance for this contract will be 4 years.

4.   Representative Task Orders: This solicitation includes Representative Task Orders (provided as attachments to this solicitation) for task order efforts that may be required by the Government. In an effort to adjust to budgetary uncertainties and maintain the continuity of this program, this solicitation includes Representative Task Orders at the current budget level and a supplemented budget level. Some Representative Task Orders are for (in general) the same effort but with varying requirements to coincide with the funding levels. The supplemented budget level is generally consistent with last year's spending levels and historical funding levels for this program. Additional language concerning funding for this solicitation can be found in Section L.

5. <u>Pre-Proposal Conference:</u> A Pre-Proposal Conference will be held Tuesday, 27 August 2002, 10:00am local time, at the current contractor's facility (NCS), in Minneapolis, MN. The purpose of this conference is to provide potential offerors an opportunity to view the existing HPC resources under the current contract and the current support infrastructure component operations. Information will also be provided concerning the research component. Potential offerors must pre-register with the Contract Specialist, Richard Burkes, by 22 August 2002 in order to attend this conference. Mr. Burkes can be reached at 919-549-4295, or burkesrc@arl.aro.army.mil. The conference is expected to last not more than three hours. Presentations and information presented at the Pre-Proposal Conference will be posted at the website listed in Paragraph #7 below for those that cannot attend or would like to have a copy of this information.

6. <u>Evaluation and Award:</u> This solicitation is being issued as a full & open competition. Formal Source Selection Procedures will be used. If negotiations are held, site visits may be conducted to verify offerors' proposals. Award will be made on a best value basis, with award to the offeror whose proposal is considered most advantageous to the Government. See Section M of this solicitation for evaluation and award information.

7. <u>Proposal Submission:</u> Section L of this solicitation provides information on Proposal Preparation and Submission. Note that there are page limitations and other requirements detailed in Section L. **Proposals in connection with this Solicitation are due by 3:00pm local time, 23 September 2002.**

8. <u>Contact Information:</u> All questions or comments concerning this Solicitation shall be forwarded to the Point of Contact (POC) identified below. Interested parties are encouraged to submit comments or questions via electronic mail to the e-mail address listed below. Comments or questions submitted should be concise and to the point, eliminating any unnecessary verbiage. In addition, the relevant part and paragraph of the Solicitation should be referenced. Responses to questions received will be posted to the website under the "Questions & Answers" section for the benefit of all interested parties. The POC is as follows:

Richard Burkes, Contract Specialist
Phone: 919.549.4295, Fax: 919.549.4388

E-MAIL ADDRESS: burkesrc@arl.aro.army.mil
Website: http://www.aro.army.mil/research/index.htm#fund

9. <u>Acquisition Schedule:</u> The following is an estimated schedule for the events leading to award under this solicitation:

EVENT	ESTIMATED DATE/TIME FRAME
Pre-Proposal Conference	27 August 2002
Proposals due	23 September 2002
Negotiations conducted	October/November 2002
Award	December 2002

SOLICITATION, OFFER AND AWARD	1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)	RATING DO	PAGE 1	OF	PAGES 62

2. CONTRACT NUMBER	3. SOLICITATION NUMBER	4. TYPE OF SOLICITATION	5. DATE ISSUED	6. REQUISITION/PURCHASE NUMBER
	DAAD19-02-R-0008	☐ SEALED BID (IFB) ☒ NEGOTIATED (RFP)	20 Aug 02	W26238-2176-4002

7. ISSUED BY   CODE | DAAD19

U.S. Army Robert Morris Acquisition Center
4300 South Miami Blvd.
Durham, NC 27703-9142

8. ADDRESS OFFER TO *(If other than Item 7)*

See Item 7

NOTE: In sealed bid solicitations "offer" and "offeror" mean "bid" and "bidder".

SOLICITATION

9. Sealed offers in original and ___10___ copies for furnishing the supplies or services in the Schedule will be received at the place specified in Item 8, or if handcarried, in the depository located in See Section L _____ until 15:00 local time 23 Sep 02
(Hour)   *(Date)*

CAUTION - LATE Submissions, Modifications, and Withdrawals: See Section L, Provision No. 52.214-7 or 52.215-1. All offers are subject to all terms and conditions contained in this solicitation.

10. FOR INFORMATION CALL:	A. NAME Richard Burkes	B. TELEPHONE *(NO COLLECT CALLS)*			C. E-MAIL ADDRESS
		AREA CODE 919	NUMBER 549-4295	EXT.	See Exec Summary

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OFFER *(Must be fully completed by offeror)*

NOTE: Item 12 does not apply if the solicitation includes the provisions at 52.214-16, Minimum Bid Acceptance Period.

12. In compliance with the above, the undersigned agrees, if this offer is accepted within _____ calendar days *(60 calendar days unless a different period is inserted by the offeror)* from the date for receipt of offers specified above, to furnish any or all items upon which prices are offered at the price set opposite each item, delivered at the designated point(s), within the time specified in the schedule.

13. DISCOUNT FOR PROMPT PAYMENT *(See Section I, Clause No. 52.232-8)*	10 CALENDAR DAYS (%)	20 CALENDAR DAYS (%)	30 CALENDAR DAYS (%)	CALENDAR DAYS (%)

14. ACKNOWLEDGMENT OF AMEND-MENTS *(The offeror acknowledges receipt of amendments to the SOLICITATION for offerors and related documents numbered and dated)*:	AMENDMENT NO.	DATE	AMENDMENT NO.	DATE

15A. NAME AND ADDRESS OF OFFEROR	CODE	FACILITY	16. NAME AND TITLE OF PERSON AUTHORIZED TO SIGN OFFER *(Type or print)*

15B. TELEPHONE NUMBER			15C. CHECK IF REMITTANCE ADDRESS IS DIFFERENT FROM ABOVE - ENTER SUCH ADDRESS IN SCHEDULE.	17. SIGNATURE	18. OFFER DATE
AREA CODE	NUMBER	EXT.	☐		

AWARD *(To be completed by Government)*

19. ACCEPTED AS TO ITEMS NUMBERED	20. AMOUNT	21. ACCOUNTING AND APPROPRIATION

22. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: ☐ 10 U.S.C. 2304(c)( ) ☐ 41 U.S.C. 253(c)( )	23. SUBMIT INVOICES TO ADDRESS SHOWN IN *(4 copies unless otherwise specified)*	ITEM

24. ADMINISTERED BY *(If other than Item 7)* CODE	25. PAYMENT WILL BE MADE BY CODE

26. NAME OF CONTRACTING OFFICER *(Type or print)*	27. UNITED STATES OF AMERICA *(Signature of Contracting Officer)*	28. AWARD DATE

IMPORTANT - Award will be made on this Form, or on Standard Form 26, or by other authorized official written notice.

PART I - THE SCHEDULE

SECTION B Supplies or Services and Prices

ITEM NO   SUPPLIES/SERVICES
0001   AMOUNT

Support Infrastructure Efforts for the Army High Performance Computing Research Center (AHPCRC) Program. Task Orders will be issued for the required efforts with a negotiated scope of work for each Task Order.

MAXIMUM VALUE $98,000,000.00

B.1 An Indefinite Delivery Indefinite Quantity (IDIQ), Contract is contemplated. Task Orders will be issued on a Cost Plus Fixed Fee (CPFF) Completion or Firm-Fixed-Price (FFP) basis, as appropriate. CPFF Task Orders are expected to be issued for the identification, acquisition and integration of novel high performance computing (HPC) resources, the Staff Scientist Program and Outreach activities. FFP Task Orders are expected to be issued for the operation, maintenance and support of the HPC resources.

B.2 In accordance with FAR 16.505 and 52.216-18, the US Army Robert Morris Acquisition Center – Research Triangle Park Division, NC is the only activity authorized to issue orders under this contract.

B.3 Each Task Order is expected to contain a CPFF value or a FFP to complete the effort. The total value of all Task Orders will not exceed the Maximum Value listed above.

B.4 The following represent the offeror's proposed prices or cost for the Representative Task Orders:

ITEM NO./ SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
Representative Task 1	1	LOT	*0.00	*0.00
Representative Task 2	1	LOT	*0.00	*0.00
Representative Task 3	12	MON		
Representative Task 4	12	MON		
Representative Task 5	1	LOT	ESTIMATED COST: FIXED FEE: TOTAL CPFF:	
Representative Task 6	1	LOT	ESTIMATED COST: FIXED FEE: TOTAL CPFF:	
Representative Task 7	1	LOT	ESTIMATED COST: FIXED FEE: TOTAL CPFF:	

*No Government funding is being provided for this task. The contractor must assume the costs for this task.

SECTION C Descriptions and Specifications

C.0 GENERAL

C.0.1 BACKGROUND

The US Army has made a significant investment in basic research on high performance computing (HPC) and its application as well as the infrastructure to support such research. This was underscored by the establishment, in 1989, and the continued sustainment thereafter of the Army High Performance Computing Research Center (AHPCRC)(the Center), at the University of Minnesota. Army investments in HPC have resulted in the increasing utilization of computer based modeling and simulation by the Army scientific and engineering community. These investments have also created a steady source of well-trained scientists and engineers in this critical area.

The Army High Performance Computing Research Program (AHPCRC), hereafter called 'the Program' consists of two components: (1) a research cooperative agreement in computational sciences and engineering, and (2) an infrastructure support contract.   Under this Program, the U. S. Army Research Laboratory (ARL) will help fulfill the research and development goals of the Department of Army by establishing a collaborative research environment including government and academic researchers. The research cooperative agreement covers three technical research areas related to computational sciences and engineering, which include: Interdisciplinary Computational Research (i.e. research involving more than one scientific discipline); Algorithms and Software Technology; and Enabling Technologies. The research cooperative agreement covering these three technical research areas provides for a research program to: 1) conduct innovative computational research in collaboration with Army scientists to accelerate the infusion of new technologies in support of Army Transformation; 2) provide for the mutual exchange of researchers between the Army and the recipient institution to facilitate the execution of joint research projects including the exploitation of high performance computing; and 3) provide on- and off-site symposia and educational programs to increase awareness of this program at Army laboratories and development centers. The research is performed under a cooperative agreement that was awarded on 9 Aug 2001 to the University of Minnesota, in Minneapolis, MN, and a team of research institutions that includes, University of North Dakota, Grand Forks, ND, Clark Atlanta University, Atlanta, GA,, Florida A&M University, Tallahassee, FL, Howard University, Washington D.C., and Jackson State University, Jackson, Mississippi. These academic institutions are referred to as the AHPCRC Partner Institutions. The Center was and shall continue to be the embodiment of the Army's support of the broader national effort to maintain U.S. leadership in computing technology and its application to issues critical to U.S. national security.

The infrastructure support component operates HPC assets that fall, in part, under the oversight of the DOD High Performance Modernization Computing Program (HPCMP) and as such operates as a Distributed Center (DC). The operation as a Distributed Center requires that 50% of the HPC cycles be made available to DOD researchers who have access under the HPCMP. The other 50% of the HPC cycles are for the AHPCRC researchers in the Cooperative Agreement and associated support staff.

C.0.2 GOALS.

The establishment of the Center was and shall continue to be the embodiment of the Army's support of the broader national effort to maintain U.S. leadership in computing technology and its application to issues critical to U.S. national security. While other HPC related initiatives funded by other agencies exist, this Center is committed to insuring that needs relevant to Army problems, in particular, are properly developed in predictable directions, without waiting for initiatives which may be primarily driven by commercial or other forces.

C.0.3 CONTRACT OBJECTIVE.

The objective of the work to be performed under this contract is to provide infrastructure support efforts to the AHPCRC as follows:

a. Provide a Core Site and Environment for Infrastructure Base and Install and Integrate Presently Owned GFP
b. Identify, Acquire, Install, Integrate and Operate New/Novel HPC resources
c. Operate, maintain and support HPC resources at the Core Site and the AHPCRC Partner Institutions
d. Develop and Administer a Staff Scientist Program and Research Support Activities
e. Conduct Technology Exchange Programs, Outreach And Educational Programs, Publications, Seminars And Workshops

C.1 PROVIDE A CORE SITE AND ENVIRONMENT FOR INFRASTRUCTURE BASE AND INSTALL AND INTEGRATE PRESENTLY OWNED GFP

C.1.1 Install and Integrate HPC and Auxiliary Systems provided as GFP

The contractor must provide a Core HPC site for installation, integration (in preparation for operation) of the major HPC systems and auxiliary equipment that will be initially provided as Government Furnished Property (GFP). The GFP to be provided is currently at the computing facility being operated for the Government. The Government will pay for the existing assets (see Attachments 2 and 3), to be dismantled, packed, and moved to the Contractor's Core site. The contractor shall install and integrate this equipment, return it to operational condition, perform appropriate test and diagnostics to assure its proper operation. This includes all hardware, and application and administrative software. The Contractor shall assume all costs with installing, integrating and returning the equipment to an operational condition.

C.1.2 Install and Integrate Communications and Networking Equipment Provided as GFP

The Government will provide the drop off of the DREN connection into the Contractor's core site facility. The Contractor shall install, integrate and return to operational condition all communications and network equipment provided as GFP that it deems appropriate and necessary for the operation of the HPC resources, including the core site system's interface connectivity to DREN. The Contractor shall prepare the Core Site to connect to a private T-1 network (as a minimum) interconnecting the HPC systems at the Core Site and all of the organizations participating under the AHPCRC cooperative agreement.

C.2 ACQUISITION, INSTALLATION, AND INTEGRATION OF NOVEL HPC RESOURCES:

C.2.1 The contractor shall identify, acquire, install, and integrate new equipment (at the Government's option, subject to availability of funds) to supplement and/or replace HPC and auxiliary equipment (for the core base) obtained at the onset of the contract. The contractor shall perform systems integration, and the incorporation of new HPC resources, to the extent funded, into the existing network of HPC systems to provide a unified, heterogeneous computing environment composed of HPC systems, large storage systems, high speed networks, and advanced graphics and visualization laboratory, and workstations.

C.2.2 The contractor shall assess and share expert knowledge on HPC hardware technology trends, the applicability and relative benefits of the emerging and available HPC hardware to the Army Cooperative Agreement requirements. The intent and thrust of this requirement is for the contractor to be agile, timely and most effective in performing new acquisitions subject to future availability of funds. These potential acquisitions are to include major system upgrades and/or replacements for the Core site along with upgrades/and/or replacements for systems and auxiliary equipment at the partner institutions.

C.3 OPERATION, MAINTENANCE AND SUPPORT OF HPC RESOURCES

C.3.1 Operation, Maintenance and Support a Core HPC Facility:

The contractor shall maintain, support and operate the Core HPC site (including all HPC systems, auxiliary systems, communications and security environment). The Contractor shall provide facilities, facilities management, systems integration services, systems administration, support equipment and supplies and services for the HPC resources as necessary to operate and maintain an HPC environment that enables the development and exploitation of the HPC applications of interest to Army and DoD with primary emphasis being on the research program of the AHPCRC Cooperative Agreement. Through this HPC environment, the Contractor shall work with the ARL, Army, DoD (and their contractors) HPC user community to exploit the capabilities of HPC to advance the defense posture of the United States. From nominally 50% of the computing capability from the systems at the Core site, and through allocations specified by the COR, computing and auxiliary services shall be provided to researchers working on and supporting the Cooperative Agreement.

In addition to supporting the Cooperative Agreement, the contractor shall operate the Core Site/Major HPC assets (large multi-processors systems), located at the contractors facility, as a Shared Resource or Support Center for the DoD as a whole (as part of the DoD HPCMP) providing nominally 50% of the Center's computing capability to DoD researchers in government, industry and academia, over the Defense Research and Engineering Network and other high speed networks. The accounts and allocations under this component are specified by the DoD HPC Modernization Office and include projects and investigators in DoD, their contractors and DoD sponsored University based researchers. It should be noted that this component of the user base and allocations thereto, is separately managed by the HPCMO. The Infrastructure Contract interface to this DoD operation is subject to the guidance, coordination and approval of the ARL COR. The Security Requirements for operating the Core site both in support of the Cooperative Agreement and as a Shared Resource Center for the HPCMP will be indicated in each Task Order. AHPCRC Core Site operational requirements shall be set forth in each Task Order.

C.3.2 Operation, Maintain and Support Equipment at Partner Institutions: The contractor shall operate, maintain, and support the HPC and auxiliary systems, (and their network connectivity) that are resident at the partner institutions of the AHPCRC. The list of these partner institutions having this equipment include the University of Minnesota, in Minneapolis, MN, Clark Atlanta University, Atlanta, GA,, Florida A&M University, Tallahassee, FL, Howard University, Washington D.C., and Jackson State University, Jackson, Mississippi.

C.3.3 Install and Integrate Security Equipment and Environment

The major HPC resources under this contract are also operated as a Shared Resource or Support Center for the DoD HPC Modernization Program (HPCMP). In that capacity, the contractor shall comply with all administrative and security requirements required by the DoD High Performance Computing Modernization Office (HPCMO) and approved by the ARL COR. These security requirements are set forth in Attachment 1. Additional security requirements may be included in Task Orders issued under this contract as appropriate.

C.3.4 Systems Support

The contractor shall create/maintain a heterogeneous computing environment to facilitate researcher development of HPC applications for the solution of critical Army and DoD problems; and, to work with the research community to exploit the capabilities of HPC to advance the defense, and economic and technological security of the United States. The contractor shall provide systems support for a network of HPC systems in a unified, heterogeneous computing environment composed of HPC systems, large storage systems, high speed networks, and advanced graphics and visualization laboratory, and workstations.

C.3.4.1 The contractor shall provide operations and networking support for the systems provided as GFP and their suite of software.

C.3.4.2 The contractor shall provide support for the major HPC resources as follows:

C.3.4.3 The contractor shall plan for and install new application and systems software and software updates as required by either vendors or user requirements. The contractor shall develop and execute a plan for centralized software support and management for all Government provided software operational at the partner institutions of the cooperative agreement.

C.3.4.4 The contractor shall troubleshoot system hardware and software failures. As necessary the contractor shall run diagnostics, develop system utilities for testing various components of the system working to fix bugs and to increase system efficiency.

C.3.4.5 The contractor shall provide support for the local area network. This includes writing device drivers, handling routing issues, domain name services, network configuration management, and troubleshooting hardware and network problems.

C.3.4.6 The contractor shall provide feedback to vendor system designers regarding recommended hardware and software modifications and design changes for inclusion in future releases of the system hardware and software.

C.3.4.7 The contractor shall perform other duties, such as system backups, generating system usage and operations and maintenance reports, running system diagnostics and provide for standard maintenance as available from systems vendors or third parties. The contractor shall facilitate both connection to the HPCMP Information Environment (IE) host site system and the transference of status files to include a daily accounting of the allocation and utilization to date for each of the accounts on the various HPC systems at the Center. The contractor shall comply with the requirements of the push-pull IE system provided in the document *"Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide.*

C.3.4.8 The contractor shall operate the major HPC systems acquired under this contract located at the AHPCRC Partner Institutions.

C.3.4.9 The contractor shall provide workspace and computer access at the Core Site for two guest researchers and the COR for a period not to exceed 90 consecutive days.

C.3.4.10 The contractor shall provide support, and maintain the AHPCRC dedicated local and wide area networks and the interconnection between AHPCRC HPC systems and the Internet and DREN. AHPCRC dedicated local area networks include those networks provided by the AHPCRC partners for AHPCRC researcher use, which contain AHPCRC provided routers/switches. The contractor will provide and be responsible for the operation of a private T-1 network interconnecting the AHPCRC at the University of Minnesota, the AHPCRC component at the University of North Dakota, the Cray T3E-1200E, (and any new systems acquired under this contract), the Cray SV1ex at Jackson State, the IBM RS/600 SPs located at Clark Atlanta, Florida A&M, Howard and Jackson State Universities.

C.3.5 User Support, Training, Helpline And Documentation

The contractor shall provide user support, consultation, training, helpline and documentation services as follows:

C.3.5.1 The contractor shall provide consulting support to local and remote users of the AHPCRC HPC systems.

C.3.5.2 The contractor shall answer questions of users of the AHPCRC computing resources about the major AHPCRC HPC systems hardware and software, evaluating algorithms for applicability to a user's project, to help a user in code development and debugging by telephone or email or at DOD User Group Meetings.

C.3.5.3 The contractor shall maintain an HTTP or equivalent server on the World Wide Web. The server shall contain descriptions of AHPCRC activities, including preprint abstracts, still images and animation samples; training and seminar announcements and schedules; a repository of publicly available software and tools developed at the AHPCRC; and application forms for grants of AHPCRC resources. The content of the WEB site should be approved by the COR.

C.3.5.4 Introductory User Guide – The contractor shall provide an on-line Introductory User Guide for the AHPCRC that includes an introduction to the AHPCRC facility and systems and the procedures required for users to access the AHPCRC systems. The contractor shall inform users about system updates and schedules via on line news items and a daily message posted to the user's terminal at login time.

C.3.6 Consultation

The contractor shall provide a telephone helpline to support on the use of the systems, hardware and software.

C.3.7 Communications Systems

The contractor shall provide network services to meet the following requirements including use of all circuits internal to the operation of the AHPCRC, including access to and from the-following: INTERNET, Defense Research and Engineering Network, T-1 Network and User File Systems.

C.4 ADMINISTER A STAFF SCIENTIST PROGRAM (SSP) AND RESEARCH SUPPORT ACTIVITIES

C.4.1 The contractor shall administer the Staff Scientists Program (SSP) at various Army facilities. Under the SSP, the contractor shall assist in placing staff scientists at various Army facilities. The staff scientists shall conduct research, training classes and tutorials in their respective computational technology areas of expertise, closely working with the cooperative agreement research program. In some cases the staff scientists shall serve in an advanced support capacity for areas such as graphics, systems and application programming.

C.4.2 Staff scientists must either have PhD's in appropriate disciplines or subject to approval by the COR, a skill level commensurate with a PhD The composition of the staff scientist's skill levels and technical disciplines will be such as to complement the research content in the research cooperative agreement. The number of staff scientists can vary depending on the requirements and available funding. The initial requirement is for up to ten staff scientists. If the need arises, contractor shall provide SSP staffing at additional Army sites as mutually agreed to by the Contractor and the COR. U.S. Staff scientists must be U. S. citizens, must be capable of acquiring secret clearances, must be approved by the COR and unless otherwise approved by the COR must be resident at the selected Army sites.

C.4.3 The Government shall furnish, on an as-required basis, at the Army sites, at no cost to the contractor, base support (including workstations and workstation maintenance, floor space, desks, telephone equipment and access, janitorial services and office supplies), supplies for interactive terminals, access to the on-site Army supercomputer systems, and access to communication networks and other supercomputer systems available under the DoD HPC Modernization Program.

C.4.4 The contractor shall provide research support efforts. This shall include but not be limited to the following:

C.4.4.1 The composition of the research support staff skill levels and technical disciplines will be such as to complement the research content in the research cooperative agreement, staff scientist program, and the government requirements. The number of research staff can vary depending on the requirements and available funding. Research support staff must be U. S. citizens, must be capable of acquiring secret clearances, must be approved by the COR. The contractor shall work to increase the number of software applications available for Army and DoD use on scalable HPC systems.

C.4.4.2 The contractor shall work with Army and DoD researchers and with industrial collaborators to implement new software applications for high performance systems particularly within the following areas: (1) Projectile-target interaction (2), Signature Modeling (3) , Chem-bio and atmospheric/environmental sciences, (4) Virtual Computing Environment , and (5) Enabling technologies and computational algorithms. ; as well as help providing the necessary enabling technologies. The contractor shall identify new technology requirements and application software needed by Army and DoD users.

C.4.4.3 The contractor shall, working with the Army and university researchers, identify needed third party applications suitable for porting to the major AHPCRC HPC systems. The contractor shall, working with the Army and university researchers, port these applications to the major HPC systems. The contractor shall work with the software developers to implement the application. The contractor shall interface the third party software with graphics software, utilities and other software already available on the system and provide user training. The objective of this process is for the contractor to gain the added capacity or added performance possible on the major AHPCRC HPC systems.

C.4.4.4 The contractor shall, through informal classes held at the Contractor's facility or at university sites housing AHPCRC systems, introduce university, Army and DOD HPC users and engineers to the latest HPC concepts and tools available to support them.

C.4.4.5 The contractor shall answer questions about the major AHPCRC HPC systems hardware and software, evaluating algorithms for applicability to a user's research project, to help a user in code development and debugging.

C.4.4.6 The contractor shall assist in the implementation of existing AHPCRC developed applications on new architectures. Contractor shall evaluate implementations that appear to exhibit superior performance using the porting approach or simplifying the porting process.

C.4.4.7 The Contractor shall integrate new computational methods and techniques into new production software packages. The Contractor with the approval of COR shall make the software available to the Army and the DOD. The Contractor shall disseminate this software primarily through: (1) posting to the WWW; (2) transfer of the software to third party vendors for incorporation into supported, third-party, commercial software; or (3) one-on-one transfer of quasi-production software to Army and DOD HPC users.

C.5 CONDUCT TECHNOLOGY EXCHANGE PROGRAMS, OUTREACH AND EDUCATIONAL PROGRAMS, PUBLICATIONS, SEMINARS AND WORKSHOPS

C.5.1 One of the missions of the AHPCRC is to support the Army in special areas of HPC and associated science and technology that bring experts together to discuss recent research or educational findings or to expose other researchers or advanced graduate/undergraduate students to new research and educational techniques or to provide technology exchange. To achieve this research and development objective, the contractor shall administer a comprehensive, proactive, multifaceted outreach research and development program including, seminars, workshops, outreach and educational program, publications in conjunction with the research cooperative agreement.

C.5.2 WORKSHOPS, SEMINARS, CONFERENCES and PUBLICATIONS

The contractor shall support the research cooperative agreement by acting as facilitator and coordinator in sponsoring workshops, seminars and conferences. The contractor responsibilities will include identification, scheduling and resourcing of conferencing facilities, dissemination of announcements, and preparation of pre and post conference technical material such as conference proceedings. The subject matter for these workshops, seminars and conferences shall be determined by the COR and the AHPCRC in conjunction with the contractor. The contractor shall co-sponsor other workshops and seminars with affiliated organizations, as may be designated by the COR and subject to availability of funding.

The Contractor shall publish the accomplishments of users of the AHPCRC systems and in particular the work being performed as part of the AHPCRC Cooperative Agreement for Research and the work accomplished under the Staff Scientists Program.

C.5.3 EDUCATIONAL PROGRAMS and OUTREACH

C.5.3.1 Educational Programs: The contractor will team with the AHPCRC research co-operative agreement and the COR in planning and conducting:

a. Introductory HPC Summer Institutes: These introductory HPC summer institutes will be conducted in coordination with and at the HBCU sites with particular emphasis on serving students local to the partner HBCU Universities. The contractor will coordinate research projects provided by the cooperative agreement university partners, provide material, exercises, and teaching assistants in topics such as scientific programming in C, Fortran, Unix and HTML.

b. An Annual Advanced Summer Institute in HPC: The advanced program will serve to increase the HPC knowledge and experience of the introductory students and other undergraduate students. The contractor will coordinate research projects provided by the cooperative agreement university partners, provide material, exercises, and teaching assistants in topics such as serial programming in Fortran and C, Parallel programming for shared and distributed memories, Visualization and HTML and Java. The Contractor shall provide for travel, provide stipends for all student attendees and additionally provide for room and board for the non-commuting students. This institute will be hosted at a facility in Minneapolis, MN so as to be proximate to the AHPCRC Cooperative Agreement offices, equipment and staff at the University of Minnesota- the site to be designated mutually by the COR and the AHPCRC in conjunction with the contractor. The contractor will coordinate Seminars in HPC applications working jointly with the AHPCRC to select and invite presenters typically Army researchers, AHPCRC researchers, Staff Scientists under this contract, and HPC researchers from Industry.

C.5.3.2 Outreach: Under the direction of the Army and with the concurrence of the COR, the Contractor shall support the AHPCRC in fostering collaborative programs with the defense industry, in particular, with the following objectives:

C.5.3.2.1 To increase technology exchange between academia, industry and Government laboratories and thus increase the economic competitiveness of the country as a whole.

C.5.3.2.2 To identify transferable technology and defense industrial problems of interest to expedite the movement of promising HPC technology and methodologies into the defense industry.

SECTION D Packaging and Marking

D.1 Reports delivered under this contract shall be identified in each Task Order and shall be afforded the degree of packaging (preservation and packing) required to prevent damage due to the hazards of shipment and handling.

SECTION E Inspection and Acceptance

E.1 Each Task Order deliverable provided under this contract will be inspected by the assigned COR and accepted if the services meet the requirements stated in the Task Order.

SECTION F Deliveries or Performance

F.1 Reporting requirements shall be specified in each Task Order. The following represent the menu of Reports to be selected from for the Task Orders issued under this Contract:

F.1.1 INTEGRATION REPORT (INITIAL INTEGRATION): The Contractor shall prepare an Integration Report upon completion of the Task Order that includes the following:

    a.) List of GFP Equipment Received with appropriate notation indicating status of equipment

    b.) Operational status and any issues outstanding relating to Installation, Integration and Check-Out of all HPC equipment, software Security Equipment and Security Environment.

    c.) Documentation of diagnostics and test procedures used to determine operational status

    d.) A description of a GFP system to serve as the machine dedicated to the IE File Transfer Function. This description shall include the functionality developed into the system and the tests and diagnostics that will be used to determine its status

    e.) Lessons learned for record

Upon submittal of this report to the COR for approval and approval by the COR, the contractor shall then be allowed to commence performing on the operation and maintenance task, if awarded.

F.1.2 USER GUIDE describing System Access and Operational and Security Procedures. This guide shall include (but is not limited to) the following:

- List of systems available by name
- Number of processors
- Main memory and disk storage available
- User limits on processors, memory and disk storrage
- Archival procedures
- Programming paradigms for each system
- Description of account approval process
- List of systems software and applications software
- Sample job scripts
- List and description of debugging tools
- Names and phone numbers for help center assistance

This report shall be reviewed and approved by the COR, along with the Integration Report.

F.1.3 OPERATING AND MAINTENANCE STATUS REPORT: This report shall be submitted quarterly. The report shall include utilization statistics on the HPC systems located at the CORE site and AHPCRC partner sites, including hours associated with remedial and preventive maintenance, and other downtime. The reports shall be due within 30 days after each quarterly period covered.

F.1.4 SYSTEMS AND USER UTILIZATION REPORT: This report shall be submitted monthly. It shall provide a listing of all authorized users by organization, location, and name; allocations for users by system; prior month utilization; cumulative fiscal year utilization to date. The reports shall be due within 10 days after each monthly period covered. The Contractor is required to answer occasional data calls, providing ad hoc reports on request.

F.1.5 OPERATING AND MAINTENANCE FUNDING REPORT: A report shall be submitted quarterly describing current and cumulative funding expenditures. The report shall also provide projections for expenditures for the following six months. The reports shall be due within 30 days of the period covered.

F.1.6 SEMI-ANNUAL REPORT (STAFF SCIENTIST PROGRAM and RESEARCH SUPPORT STAFF) The Contractor shall provide a semi-annual report of the Staff Scientist Program and research support activities, describing the efforts that have been completed and comparing such against the plan for such effort. This progress report shall contain project descriptions, project objectives, and accomplishments or deliverables met according to the plan. The staff scientists and research support staff should also deliver the software developed with associated documentation along with the report on a CD. The contractor shall also provide a plan for the Staff Scientist Program and research support staff for the next 6 months. This plan shall detail the current and projected staffing of the Staff Scientist Program and research support staff, their disciplines and assignment locations, teaming arrangements, project descriptions, project objectives, project milestones, specific deliverables and the work to be done in the next six months. The plan shall be due 30 days prior to the next six-month period, to include the end of performance under the task order.

F.1.7 MONTHLY STATUS REPORT (STAFF SCIENTIST PROGRAM): The Contractor shall provide a monthly status report to the COR that includes the following:

    a.   List of all staff scientists and support staff on board during the month (or fractions thereof):

    b.   Army activity, location and project assignment

    c.   Amount to be billed against each staff scientist and support staff

    d.   Issues and status information for positions to be filled and/or expected vacancies.

    e.   Significant research progress and/or results achieved by selected staff scientists. The objective here is to highlight progress on one or more projects depending on results/progress recently achieved.

F.1.8 TASK FINAL REPORT: The Contractor shall provide a comprehensive report at the completion of each task order summarizing all activities under the task. A draft report shall be due no later than sixty days after task order completion to the COR for comments. Final report shall be provided no later than 15 days after receipt of COR comments. Exception to this requirement is that of tasks related to the Integration of Equipment- for which separate Reports are required

F.1.9 AHPCRC BULLETIN: The Contractor shall arrange for printing and issue a 16-20 page, color AHPCRC bulletin. The bulletin shall contain articles on use of the HPC systems and technology exchange with Army sites and AHPCRC partners. The bulletin shall be issued four times a year and must reflect i.) the research results of the partners in the cooperative agreement ii.) significant accomplishments of the infrastructure support contract to include HPC capability and services rendered iii.) research, development and support successes of the staff scientists iv.) significant activities associated with workshops, seminars, education, outreach and publications. The technical content associated with the cooperative research agreement will be the responsibility of and shall be approved by the director of the AHPCRC Research Cooperative Agreement. The Director of the AHPCRC cooperative agreement should closely work with the contractor in preparing this bulletin and will have final say on the technical content of the bulletin. The draft report shall be provided within thirty days after the end of the three-month period covered to the Contracting Officer's Representative (COR) for comments. Final report shall be provided within sixty days after the end of the three-month period incorporating COR comments.

F.1.10 TECHNOLOGY TRANSITION REPORTS: The Contractor shall provide progress reports quarterly on all technology transition efforts performed under the contract. The report shall highlight technology transfer accomplishments that benefit the Army. The report shall be provided within thirty days after the end of the three-month period covered.

F.1.11 INTEGRATION REPORT (NEW HPC RESOURCES): The Contractor shall prepare an Integration Report upon completion of the Task Order that includes the following:

a. List of Equipment Received with appropriate notation indicating status of equipment
b. Operational status and any issues outstanding relating to Installation, Integration and Check-Out of new HPC equipment, software Security Equipment and Security Environment and interoperation with pre-existing equipment.
c. Any changes needed in procedures or users guide
d. Lessons learned for record
e. Documentation of diagnostics and test procedures used to determine operational status

Upon submittal of this report to the COR for approval and approval by the COR, the contractor shall then be allowed to place the new resources into operation under operation and maintenance task.

F.1.12 WORKSHOP PROCEEDINGS: The contractor shall provide a CD-ROM of the Workshop Proceedings including all the papers presented and a Summary Foreword from the Workshop Chairman. The CD Rom shall be completed within forty five days after the end of the workshop.

F.1.13 SUMMER INSTITUTE PROCEEDINGS: The contractor shall provide a CD-ROM detailing the success of the Summer Institute Program including photographs of the students and their mentors, their project descriptions and their presentations. The CD-ROM shall be completed within forty five days after the end of the Summer Institute.

F 1.14 SOFTWARE: The contractor shall provide all the software developed under this contract including documentation (users guide, sample input/output, compiling/executing instructions, performance of the software, success stories, publications, etc.) on CD's or appropriate media. This includes all the software associated with systems, applications, tools, etc. The distribution of the software will be the responsibility of the Government/COR.

F.2 The performance of the contract shall commence on the effective date of the contract and shall end sixty (60) consecutive months thereafter. Required time for delivery of specific work will be cited in each Task Order. Any Task Order issued during the effective period of this contract must be completed within the performance period of the contract (contract award through sixty (60) months).

F.3 All technical data shall be delivered in accordance with each specific task order. Data items which require distribution to DTIC shall be mailed to the following address:

Defense Technical Information Center (DTIC)
8725 John J. Kingman Road, Suite 0944
Ft. Belvoir, VA 22060-6218

SECTION G Contract Administration Data

G.1 Delegation of Administrative Functions:

    a.   Administrative Contract Office

    TO BE COMPLETED AT TIME OF AWARD

G.2 Payment Information and Inquiries:

    a.   The Contractor should contact the DFAS Office indicated in Block 12 of the SF 26 for information or inquiries regarding payments on this contract. Telephonic inquiries may be made to 1-800-756-4571 and electronic inquiries may be made at http://www.dfas.mil. In the event DFAS cannot answer the inquiry, the Contracting Officer may be contacted for assistance.

G.3 Payment of Invoices will be made by:

    TO BE COMPLETED AT TIME OF AWARD

G.4 The Contracting Officer's Technical Representative is:

    TO BE COMPLETED AT TIME OF AWARD

G.5 VOUCHER REQUIREMENTS

    a.   All Vouchers must identify each Task Order along with the CLIN under which payment is being requested. VOUCHERS WHICH DO NOT IDENTIFY THE PROPER TASK ORDER AND CLIN(S) WILL BE REJECTED BY THE PAYMENT OFFICE AS IMPROPER.

    b.   Distribution of Vouchers – The Contractor shall forward vouchers to the addresses below in a simultaneous mailing:

        1.   The original and six (6) copies to the Defense Contract Audit Agency (DCAA). The cognizant DCAA office address is:

        TO BE COMPLETED AT TIME OF AWARD

        2.   One copy to the Contracting Officer Representative (COR).

    c.   The contract completion voucher will be forwarded by the DCAA Contract Auditor to the Defense Contract Management Agency (DCMA) Administrative Contracting Officer (ACO), or to the Procuring Contracting Officer (PCO) who signed this contract if no DCMA ACO has been designated, for approval and transmittal to the cognizant disbursing office.

G.6 Payments shall be disbursed in accordance with this Section G herein. Each Task Order will associate specific ACRNs with specific CLINs. In the event a CLIN contains multiple ACRNs, payments shall be disbursed on a "first expiring funds" basis, unless otherwise specified.

SECTION H Special Contract Requirements

H.1 SUBCONTRACTING PLAN

The Subcontracting Plan dated _____ submitted by the Contractor was approved by the Contracting Officer and is attached under Section J.

H.2 DISCLOSURE OF INFORMATION

The DFARS Clause at 252.204-7000 requires the Contracting Officer's approval for disclosure of information. The following sets forth the Army disclosure requirements and the process by which disclosure can be made:

Army Regulations (AR) 530-1 and AR 360-1 prescribe Department of the Army policies for operations security (OPSEC) review prior to public release. These include:

(1) Procurement instruments and solicitations (including grants, cooperative agreements, etc.), abstracts, papers, technical reports, articles, point papers, news releases, short items to be included in other publications, academic papers on work-related subject matter, speeches, briefings, media presentations, training materials, munitions cases, environmental impact statements, and other forms of information, including film, audio tapes and video cassettes which could divulge non-releasable, unclassified information

(2) Information posted on electronic bulletin boards, passed over unsecured electronic mail systems, or posted in a manner to the World Wide Web

These policies are applicable to unclassified contracts/instruments as well as the classified contracts/instruments governed in this respect by DD Form 254.

Army policy is to make available to the public the maximum accurate information on Army contract/instrument relationships, industry/academic accomplishments, and scientific achievements. In furtherance of this policy, each party agrees to confer and consult with each other prior to publication or any other disclosure of information relating to efforts under this contract/instrument. Prior to any public publication or disclosure, each party will offer the other party ample opportunity to review the proposed publication or disclosure, to submit objections, and to file application letters for patents in a timely manner. The contractor shall allow 60 days for completion of this process.

Your organization will provide the Public Affairs Office any public release of information on this contract/instrument by forwarding the material to be released and a transmittal letter identifying the contract/instrument number the specific information to be released, the medium to be used, the purpose of the release, the cognizant Science Officer, Technical Monitor, or Contracting Officer's Representative to the addresses shown below.

U.S. Army Research Laboratory	U.S. Army Robert Morris Acquisition Center
Public Affairs Office	RTP Division
ATTN: AMSRL-CS-PA	ATTN: AMSSB-ACR (R. Burkes)
2800 Powder Mill Road	4300 S. Miami Blvd.
Adelphi, Maryland 20783-1197	Durham, NC 27703

M/F: Contract No.: DAAD19-03-D-NNNN

The contractor shall assure that an acknowledgment of Government support and disclaimer of Government endorsement as set forth below shall appear on each publication or presentation of material based on or developed under this program. These statements shall appear either on the title/first page or the final page of such documents -

> "The research reported in this document/presentation was performed in connection with contract/instrument DAAD19-03-D-NNNN with the U.S. Army Research Laboratory. The views and conclusions contained in this document/presentation are those of the authors and should not be interpreted as presenting the official policies or position, either expressed or implied, of the U.S. Army Research Laboratory or the U.S. Government unless so designated by other authorized documents. Citation of manufacturer's or trade names does not constitute an official endorsement or approval of the use thereof. The U.S. Government is authorized to reproduce and distribute reprints for Government purposes notwithstanding any copyright notation hereon."

H.3 TASK ORDERS

a. The Contractor shall perform its obligation under this contract in accordance with written Task Orders issued on a DD Form 1155 by the Contracting Officer pursuant to this paragraph. No work will be performed or billed by the Contractor unless and until authorized by such Task Orders signed by the Contracting Officer.

b. Individual Task Orders will be issued on a CPFF (completion) basis or a Firm-Fixed-Price (FFP) basis. Task Orders issued hereunder will be serially numbered. For CPFF Task Orders each will include (1) a statement that it is issued on a CPFF basis, (2) the CPFF Value, (3) a specific description of the work to be performed and items to be delivered, including data items, (4) ACRN(s) and CLIN(s) specific to the Task Order, (5) the amount available and allotted to the Task Order, and (6) the date by which all effort and deliveries are to be completed. For FFP Task Orders each will include (1) a statement that it is issued on a FFP basis, (2) the FFP, (3) a specific description of the work to be performed and items to be delivered, including data items, (4) ACRN(s) and CLIN(s) specific to the Task Order, (5) the amount available and allotted to the Task Order, and (6) the date by which all effort and deliveries are to be completed.

c. Except as provided in subparagraph (d) below, the issuance of a Task Order shall be proceeded by an agreement by the Contractor and the Contracting Officer on the completion schedule and the ceiling price.

d. The Contracting Officer may issue Task Orders on a CPFF basis without first reaching agreement with the Contractor on the price and schedule, and the Contractor shall proceed with the performance of such Task Order, up to the ceiling price.

e. All Task Orders issued hereunder are subject to the terms and conditions of this contract, and this contract shall control in the event of conflict with any Task Order.

f. If at any time during performance of any individual CPFF Task Order the Contractor believes that the work thereunder cannot be completed within the estimated cost set forth therein, the Contractor shall so notify the Contracting Officer, giving a revised estimate of the estimated cost for performing the Task Order with supporting reasons and documentation, in accordance with the Limitation of Cost clause set forth in the contract. The Government shall not be obligated to pay the Contractor any amount in excess of the estimated cost set forth in each Task Order for performance of work thereunder, and the Contractor shall not be obligated to continue performance thereunder if to do so would exceed its estimated cost, unless and until the Contracting Officer has notified the Contractor in writing that the estimated cost has been increased and has specified in the notice a revised CPFF value for performance under the Task Order.   H.2

g. The Government may incrementally fund each CPFF Task Order. Incrementally funded CPFF Task Orders will set forth the amount available and allotted to the Task Order. The Limitation of Funds clause will apply to all incrementally funded CPFF Task Orders.

H.4 INVOICING

a. The Contractor shall segregate and bill separately for work performed under each Task Order issued under this contract. Costs of performing work set forth in one Task Order shall not be chargeable or payable under any other Task Order. In addition, if the Task Order contains multiple CLINs, the Contractor shall segregate and bill separately for work performed under each CLIN of the Task Order. Costs of performing work set forth in one CLIN shall not be chargeable or payable under any other CLIN.

b. Each Task Order will be numbered as it is issued to the Contractor by the Contracting Officer or his/her authorized representative. This order number is to appear on all work accomplished and on all invoices. Invoices may be submitted on a monthly basis.

H.5 GOVERNMENT FURNISHED PROPERTY DELIVERY SCHEDULE

To be identified on individual Task Orders.

H.6 FOREIGN NATIONALS PERFORMING UNDER CONTRACT

In accordance with 8 USC 1324a, it is unlawful to hire for employment in the US an individual without verifying that individual's employment authorization. 8 CFR 274a.2 VERIFICATION OF EMPLOYMENT ELIGIBILITY identifies the official documents that establish employment eligibility.

Prior to performance of work by a foreign national as a result of this contract, the employer shall provide the Contracting Officer the name of the foreign national and identify the type of form (s) produced for verification of employment status. Should the foreign national's performance require access to DoD facilities, the employer shall coordinate with the sponsor providing access, in order to submit the following:

1. Individual's Name
2. Citizenship
3. Date and Location of the Visit
4. Purpose of the Visit
5. Passport Number
6. Employer's Verification of Work Authorization

SECTION I Contract Clauses

THE FOLLOWING CLAUSES ARE TO BE USED IN CONNECTION WITH BOTH COST-PLUS-FIXED-FEE (CPFF) AND FIRM-FIXED-PRICE (FFP) TASK ORDERS ISSUED UNDER THIS CONTRACT:

CLAUSES INCORPORATED BY REFERENCE:

52.202-1	Definitions	DEC 2001
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	JUL 1995
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	JUN 1997
52.204-2	Security Requirements	AUG 1996
52.204-3	Taxpayer Identification	OCT 1998
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-6	Data Universal Numbering System (DUNS) Number	JUN 1999
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	JUL 1995
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-11	Price Reduction for Defective Cost or Pricing Data--Modifications	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-14 Alt I	Integrity of Unit Prices (Oct 1997) - Alternate I	OCT 1997
52.215-15	Pension Adjustments and Asset Reversions	DEC 1998
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	OCT 1997
52.216-18	Ordering	OCT 1995
52.219-8	Utilization of Small Business Concerns	OCT 2000
52.219-9 Alt II	Small Business Subcontracting Plan (Jan 2002) Alternate II	OCT 2001
52.219-4	Notice of Price Evaluation Preference for HUBZone Small Business Concerns	JAN 1999
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	AUG 1996
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	APR 2002
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans	DEC 2001
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era and Other Eligible Veterans	DEC 2001
52.223-6	Drug Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	OCT 2000
52.225-1	Buy American Act-Balance of Payments Program-Supplies	FEB 2000
52.225-13	Restrictions on Certain Foreign Purchases	JUL 2000

52.227-1 Alt I	Authorization And Consent (Jul 1995) - Alternate I	APR 1984
52.230-2	Cost Accounting Standards	APR 1998
52.230-3	Disclosure And Consistency Of Cost Accounting Practices	APR 1998
52.230-6	Administration of Cost Accounting Standards	NOV 1999
52.232-17	Interest	JUN 1996
52.232-23 Alt I	Assignment of Claims (Jan 1986) - Alternate I	APR 1984
52.232-25	Prompt Payment	FEB 2002
52.232-33	Payment by Electronic Funds Transfer—Central Contractor Registration	MAY 1999
52.233-1	Disputes	DEC 1998
52.233-3 Alt I	Protest After Award (Aug 1996) - Alternate I	JUN 1985
52.237-3	Continuity Of Services	JAN 1991
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15	Stop-Work Order	AUG 1989
52.243-7	Notification Of Changes	APR 1984
52.244-5	Competition In Subcontracting	DEC 1996
52.246-25	Limitation Of Liability--Services	FEB 1997
52.247-63	Preference For U.S. Flag Air Carriers	JAN 1997
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	MAR 1999
252.203-7002	Display Of DOD Hotline Poster	DEC 1991
252.204-7000	Disclosure Of Information	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004	Required Central Contractor Registration	NOV 2001
252.209-7000	Acquisition From Subcontractors Subject To On-Site Inspection Under The Intermediate Range Nuclear Forces (INF) Treaty	NOV 1995
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	MAR 1998
252.209-7005	Reserve Officer Training Corps and Military Recruiting on Campus	JAN 2000
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	OCT 1998
252.219-7003	Small, Small Disadvantaged and Women-Owned Small Business Subcontracting Plan (DOD Contracts)	APR 1996
252.225-7012	Preference For Certain Domestic Commodities	APR 2002
252.225-7031	Secondary Arab Boycott Of Israel	JUN 1992
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7026	Deferred Delivery Of Technical Data Or Computer Software	APR 1988
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7034	Patents--Subcontracts	APR 1984
252.227-7036	Declaration of Technical Data Conformity	JAN 1997
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252-235-7010	Acknowledgement of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	SEP 1999
252.242-7004	Material Management and Accounting System I.2	DEC 2000

CLAUSES INCORPORATED BY FULL TEXT

52.215-19   NOTIFICATION OF OWNERSHIP CHANGES (OCT 1997)

(a) The Contractor shall make the following notifications in writing:

(1) When the Contractor becomes aware that a change in its ownership has occurred, or is certain to occur, that could result in changes in the valuation of its capitalized assets in the accounting records, the Contractor shall notify the Administrative Contracting Officer (ACO) within 30 days.

(2) The Contractor shall also notify the ACO within 30 days whenever changes to asset valuations or any other cost changes have occurred or are certain to occur as a result of a change in ownership.

(b) The Contractor shall--

(1) Maintain current, accurate, and complete inventory records of assets and their costs;

(2) Provide the ACO or designated representative ready access to the records upon request;

(3) Ensure that all individual and grouped assets, their capitalized values, accumulated depreciation or amortization, and remaining useful lives are identified accurately before and after each of the Contractor's ownership changes; and

(4) Retain and continue to maintain depreciation and amortization schedules based on the asset records maintained before each Contractor ownership change.

The Contractor shall include the substance of this clause in all subcontracts under this contract that meet the applicability requirement of FAR 15.408(k).

(End of clause)

52.215-21   REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA--MODIFICATIONS (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data for modifications under this contract, for price adjustments expected to exceed the threshold set forth at FAR 15.403-4 on the date of the agreement on price or the date of the award, whichever is later, the Contractor may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable--

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Information on modifications of contracts or subcontracts for commercial items. (A) If--

(1) The original contract or subcontract was granted an exception from cost or pricing data requirements because the price agreed upon was based on adequate price competition or prices set by law or regulation, or was a contract or subcontract for the acquisition of a commercial item; and

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(2) The modification (to the contract or subcontract) is not exempted based on one of these exceptions, then the Contractor may provide information to establish that the modification would not change the contract or subcontract from a contract or subcontract for the acquisition of a commercial item to a contract or subcontract for the acquisition of an item other than a commercial item.

(B) For a commercial item exception, the Contractor shall provide, at a minimum, information on prices at which the same item or similar items have previously been sold that is adequate for evaluating the reasonableness of the price of the modification. Such information may include--

(1) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities.

(2) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market.

(3) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The Contractor grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this clause, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation , access does not extend to cost or profit information or other data relevant solely to the Contractor's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the Contractor is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The Contractor shall submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before award (except for unpriced actions), the Contractor shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

(End of clause)

52.216-19   ORDER LIMITATIONS. (OCT 1995)

(a) Minimum order. No minimum amount for individual Task Orders will be specified

(b) Maximum order. The Contractor is not obligated to honor:

(1) Any order for a single item in excess of N/A;

(2) Any order for a combination of items in excess of N/A; or

(3) A series of orders from the same ordering office within N/A days that together call for quantities exceeding the limitation in subparagraph (1) or (2) above.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) above.

(d) Notwithstanding paragraphs (b) and (c) above, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 5 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source.

(End of clause)

52.216-22   INDEFINITE QUANTITY. (OCT 1995)

(a) This is an indefinite-quantity contract for the supplies or services specified, and effective for the period stated, in the Schedule. The quantities of supplies and services specified in the Schedule are estimates only and are not purchased by this contract.

(b) Delivery or performance shall be made only as authorized by orders issued in accordance with the Ordering clause. The Contractor shall furnish to the Government, when and if ordered, the supplies or services specified in the Schedule up to and including the quantity designated in the Schedule as the "maximum". The Government shall order at least the quantity of supplies or services designated in the Schedule as the "minimum".

(c) Except for any limitations on quantities in the Order Limitations clause or in the Schedule, there is no limit on the number of orders that may be issued. The Government may issue orders requiring delivery to multiple destinations or performance at multiple locations.

(d) Any order issued during the effective period of this contract and not completed within that period shall be completed by the Contractor within the time specified in the order. The contract shall govern the Contractor's and Government's rights and obligations with respect to that order to the same extent as if the order were completed during the contract's effective period.
(End of clause)

52.223-13   CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

[ ] (i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

[ ] (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

[ ] (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

[ ] (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

[ ] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

52.233-2   SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer.

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.244-6   SUBCONTRACTS FOR COMMERCIAL ITEMS (MAY 2002)

(a) Definitions. As used this clause--

"Commercial item", has the meaning contained in the clause at 52.202-1, Definitions.

"Subcontract", includes a transfer of commercial items between divisions, subsidiaries, or affiliates of the Contractor or subcontractor at any tier.

(b) To the maximum extent practicable, the Contractor shall incorporate, and require its subcontractors at all tiers to incorporate, commercial items or nondevelopmental items as components of items to be supplied under this contract.

(c)(1) The Contractor shall insert the following clauses in subcontracts for commercial items:

(i) 52.219-8, Utilization of Small Business Concerns (OCT 2000) (15 U.S.C. 637(d)(2) and (3)), in all subcontracts that offer further subcontracting opportunities. If the subcontract (except subcontracts to small business concerns) exceeds $500,000 ($1,000,000 for construction of any public facility), the subcontractor must include 52.219-8 in lower tier subcontracts that offer subcontracting opportunities.

(ii) 52.222-26, Equal Opportunity (APR 2002) (E.O. 11246).

(iii) 52.222-35, Equal Opportunity for Special Disabled Veterans, Veterans of the Vietnam Era and Other Eligible Veterans (DEC 2001) (38 U.S.C. 4212(a)).

(iv) 52.222-36, Affirmative Action for Workers with Disabilities (JUN 1998) (29 U.S.C. 793).

(v) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (JUN 2000) (46 U.S.C. Appx 1241) (flowdown not required for subcontracts awarded beginning May 1, 1996).

(2) While not required, the Contractor may flow down to subcontracts for commercial items a minimal number of additional clauses necessary to satisfy its contractual obligations.

(d) The Contractor shall include the terms of this clause, including this paragraph (d), in subcontracts awarded under this contract.

(End of clause)

52.252-2   CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

http://farsite.hill.af.mil/vffar1.htm
Clauses for FFP Task Orders

CLAUSES INCORPORATED BY REFERENCE:

THE FOLLOWING CLAUSES APPLY TO FFP TASK ORDERS:

52.222-48	Exemption from Application of Service Contract Act Provisions for Contracts for Maintenance, Calibration, and/or Repair of Certain Information Technology, Scientific and Medical and/or Office and Business Equipment-Contractor Certification	AUG 1996
52.229-3	Federal, State And Local Taxes	JAN 1991
52.232-1	Payments	APR 1984
52.232-8	Discounts For Prompt Payment	FEB 2002
52.232-11	Extras	APR 1984
52.239-1	Privacy or Security Safeguards	AUG 1996
52.242-17	Government Delay Of Work	APR 1984
52.243-1 Alt I	Changes--Fixed Price (Aug 1987) - Alternate I	APR 1984
52.245-2	Government Property (Fixed Price Contracts)	DEC 1989
52.245-19	Government Property Furnished "As Is"	APR 1984
52.246-15	Certificate of Conformance	APR 1984
52.246-16	Responsibility For Supplies	APR 1984
52.246-25	Limitation Of Liability--Services	FEB 1997
52.248-1	Value Engineering	FEB 2000
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	SEP 1996
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984

CLAUSES INCORPORATED BY REFERENCE:

THE FOLLOWING CLAUSES APPLY TO CPFF TASK ORDERS:

52.227-11	Patent Rights--Retention By The Contractor (Short Form)	JUN 1997
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.232-20	Limitation Of Cost	APR 1984
52.232-22	Limitation Of Funds	APR 1984
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.243-2 Alt V	Changes--Cost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.244-2	Subcontracts	AUG 1998
52.246-9	Inspection Of Research And Development (Short Form)	APR 1984
52.245-5	Government Property (Cost-Reimbursement, Time-and-Materials, or Labor Hour Contracts	JAN 1986
52.246-8	Inspection of Research and Development-Cost Reimbursement	MAR 2001
52.249-6	Termination (Cost Reimbursement)	SEP 1996
52.249-14	Excusable Delays	APR 1984

CLAUSES INCORPORATED BY FULL TEXT

52.216-7   ALLOWABLE COST AND PAYMENT (FEB 2002)

(a) Invoicing. (1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) subpart 31.2 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(2) Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act. Interim payments made prior to the final payment under the contract are contract financing payments, except interim payments if this contract contains Alternate I to the clause at 52.232-25.

(3) The designated payment office will make interim payments for contract financing on the 30th day after the designated billing office receives a proper payment request.

In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

(b) Reimbursing costs. (1) For the purpose of reimbursing allowable costs (except as provided in paragraph (b)(2) of this section, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term "costs" includes only--

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for—

I.8

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments will be made--

(1) In accordance with the terms and conditions of a subcontract or invoice; and

(2) Ordinarily prior to the submission of the Contractor's next payment request to the Government;

(B) Materials issued from the Contractor's inventory and placed in the production process for use on the contract;

(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check, or other forms of payment to subcontractors.

(2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless--

(i) The Contractor's practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractor's indirect costs for payment purposes).

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractor's expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns. A small business concern may receive more frequent payments than every 2 weeks.

(d) Final indirect cost rates. (1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. (ii) The proposed rates shall be based on the Contractor's actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractor's proposal.

(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify (i) the agreed-upon final annual indirect cost rates, (ii) the bases to which the rates apply, (iii) the periods for which the rates apply, (iv) any specific indirect cost items treated as direct costs in the settlement, and (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates. The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(5) Within 120 days (or longer period if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract, the Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates.

(6)(i) If the Contractor fails to submit a completion invoice or voucher within the time specified in paragraph (d)(5) of this clause, the Contracting Officer may--

(A) Determine the amounts due to the Contractor under the contract; and

(B) Record this determination in a unilateral modification to the contract.

(ii) This determination constitutes the final decision of the Contracting Officer in accordance with the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates--

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be (1) reduced by amounts found by the Contracting Officer not to constitute allowable costs or (2) adjusted for prior overpayments or underpayments.

(h) Final payment. (1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(4) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver--

I.10

(i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except--

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

(End of clause)

SECTION J List of Documents, Exhibits and Other Attachments

Attachment 1 –   Security Requirements

Attachment 2 –   List of Hardware, Equipment and Software located at the Core Site (Representative Task 1)

Attachment 3 –   List of Hardware, Equipment and Software located at the Core Site (Representative Task 2)

Attachment 4 –   List of Hardware, Equipment and Software at AHPCRC Partner Institutions (Representative Task 1)

Attachment 5 –   Subcontracting Plan (TO BE INCLUDED AT TIME OF AWARD)

Attachment 6 –   Representative Task 1 – Provide a Core Site and Environment for Infrastructure Base and Install and Integrate Presently Owned GFP (Supplemented Budget)

Attachment 7 –   Representative Task 2 – Provide a Core Site and Environment for Infrastructure Base and Install and Integrate Presently Owned GFP (Current Budget)

Attachment 8 -   Representative Task 3 – Operate, Maintain the Core Site in Support of the Cooperative Agreement and High Performance Computing Modernization Program for the systems included in Task 1(Supplemented Budget)

Attachment 9 -   Representative Task 4 – Operate, Maintain the Core Site in Support of the Cooperative Agreement and High Performance Computing Modernization Program for the systems included in Task 2 (Current Budget)

Attachment 10 –   Representative Task 5 –Staff Scientist Program (SSP) and Research Support Activities

Attachment 11 -   Representative Task 6 – Acquisition, Installation and Integration of Novel HPC Resources

Attachment 12 -   Representative Task 7 – Conduct Technology Exchange Programs, Outreach and Educational Programs, Publications, Seminars and Workshops

Attachment 13 -   Past Performance Survey

Attachment 14 -   Proposal Cover Sheet

Attachment 15 -   Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide.

Attachment 16 -   DD Form 254

ATTACHMENT 1
Security Requirements for the
Army High Performance Computing Research Center (AHPCRC)
Infrastructure Support Contract

1. The contractor shall install, support and maintain the current version of Kerberos in use throughout the High Performance Computing Modernization Program (HPCMP). The version then in use at the time of contract award will be specified to the contractor. [Current version is Version 5, MIT 1.06 NRL Release Tag 2002 0115.] The contractor shall be responsible for implementing any configuration management changes to Kerberos that the HPCMP specifies during the duration of the contract.

2. The contractor shall control access to all HPC systems being supported under this contract through the use of Kerberos and SecureID.

3. The contractor shall implement and maintain all HPCMP System/Network security policies. The Contractor shall operate all computer systems acquired under this contract in conformance with the policies and procedures of the Department of Defense High Performance Computing Modernization Program and the following DoD Instructions and/or Regulations:

DoD Instruction 5200.2 R "Security of Department of Defense Installations and Resources"

DoD Directive 5200.28 "Security Requirements for Automated Information Systems"

DoD Directive 5235.25 "Withholding of Unclassified Technical Data from Public Disclosure"

DoD 5200.1-R "DoD Information Security Program"

DoD 5200.28-STD "Department of Defense Standard - Trusted Computer Evaluation Criteria"

DoD Instruction 5200.40 "DoD Information Technology Security Certification and Accreditation Process"

Memorandum from the Office of the Director of Defense Research and Engineering, dated 20 February 2002, "Clarification on How Long Accounts are Permitted for Foreign Nationals with Students Visas"*

Memorandum from the Office of the Director of Defense Research and Engineering, dated 28 September 2001, "Revision to the Uniform Use Access Policy for HPCMP Resources"*

Memorandum front the Office of the Director of Defense Research and Engineering, dated 5 April 2001, "Automated Data Processing Designations for Unclassified HPC Resources"*

Memorandum from the Office of the Director of Defense Research and Engineering, dated 31 October 2000, "SecurID and Kerberos Memorandum Updates"*

Memorandum from the Office of the Director of Defense Research and Engineering, dated 16 March 1998, "SecurID and Kerberos Memorandum"*

Memorandum from the Office of the Director of Defense Research and Engineering, dated 20 April 1999, "Uniform Use-Access Policy for Unclassified DoD High Performance Computing Modernization Program Resources"*

*These memoranda are available at http://www.hpcmo.hpc.mil/Htdocs/SECURITY/index.html

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
AFS servers	AFS Drives				
AFS servers	8MM Tape Drive			00012751	4360
AFS servers	8MM Tape Drive			56414-26	4361
AFS servers	8MM Tape Drive			56414-26	4362
AFS-1	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494603	2557
AFS-1	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494713	2560
AFS-1	Monitor	21-18950	IBM	21-18950	2928
AFS-1	Workstation Server		IBM	10-33954	2929
AFS-2	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494681	2558
AFS-2	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494684	2561
AFS-2	Workstation Server		IBM	10-33953	2931
AFS-3	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494678	2559
AFS-3	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494627	2562
AFS-3	Workstation Server		IBM	10-33952	2933
AFS-4	Indigo2	100 MHz	SGI	080069075A98	2396
AFS-4	Indigo2	Upgrade	SGI	22313645	2396
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001068	2263
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001069	2264
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001065	2265
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001066	2266
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001061	2267
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001064	2268
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001062	2269
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001067	2270
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6070	2239
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6018	2240
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6075	2241
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6022	2242
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6037	2243
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6057	2244
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6052	2245
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6735	2246
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6053	2247
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6074	2248
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6023	2249
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6068	2250
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3804	2271
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3813	2272
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3785	2273
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3749	2274
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3764	2275
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3742	2276
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3343	2277
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3596	2278
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2411	2279
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1794	2280
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1589	2281
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2570	2282
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1989	2283
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2808	2284

Item	Type	Detail	Mfr	Serial	ID
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2449	2285
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2418	2286
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1199	2287
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2366	2288
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2652	2289
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2672	2290
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2793	2291
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1977	2292
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2917	2293
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2600	2294
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2416	2295
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2645	2296
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2352	2297
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2483	2298
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1548	2299
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1982	2300
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1521	2301
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2463	2302
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2245	2303
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2650	2304
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2308	2305
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1014	2306
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2639	2307
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2497	2308
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1138	2309
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1857	2310
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2426	2311
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1783	2312
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2656	2313
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	0404	2314
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1644	2315
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3821	2316
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3569	2317
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3790	2318
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3595	2319
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3339	2320
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6145	2367
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6294	2368
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5678	2369
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6289	2370
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6267	2371
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6202	2372
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5981	2373
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5193	2374
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6142	2375
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5730	2376
Ciprico Disk Array	Cabinet	77" Stand with 19" Rack	NPI	N/A	2377
CRAY T3E-1200 System	T3E System Upgrade		SGI		3111
CRAY T3E-1200 System	Drive Rack	P-DSSI SCSI-2	SGI	6901	3112
CRAY T3E-1200 System	Node	P-MPN1 Multi-Purpose	SGI	6901	3113
CRAY T3E-1200 System	Node	P-MPN1 Multi-Purpose	SGI	6901	3116
CRAY T3E-1200 System	Node	P-FCN1 Fibre Channel	SGI	6901	3116
CRAY T3E-1200 System	Node	P-FCN1 Fibre Channel	SGI	6901	3117
CRAY T3E-1200 System	Node	P-FCN1 Fibre Channel	SGI	6901	3118

System	Item	Description	Manufacturer	Serial No.	ID
CRAY T3E-1200 System	Node	P-HPN1 HIPPI Channel	SGI	6901	3119
CRAY T3E-1200 System	Node	P-HPN1 HIPPI Channel	SGI	6901	3120
CRAY T3E-1200 System	Node	P-HPN1 HIPPI Channel	SGI	6901	3121
CRAY T3E-1200 System	Node	P-HPN1 HIPPI Channel	SGI	6901	3122
CRAY T3E-1200 System	Cabinet	P-PC10B I/O	SGI	6901	3123
CRAY T3E-1200 System	Cabinet	P-PC10B I/O	SGI	6901	3124
CRAY T3E-1200 System	Cabinet	P-PC10B I/O	SGI	6901	3125
CRAY T3E-1200 System	Node	P-NSR1 Subrack	SGI	6901	3126
CRAY T3E-1200 System	Node	P-NSR1 Subrack	SGI	6901	3127
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3128
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3129
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3130
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3131
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3132
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3133
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3134
CRAY T3E-1200 System	Disk Drive	P-DFS1 Fibre Channel	SGI	6901	3135
CRAY T3E-1200 System	Processor	AHPCRC T3E	SGI	6901	3136
CRAY T3E-1200 System	Adaptor	LC-PM1200	SGI	6901	3138
CRAY T3E-1200 System	SCSI-2	ETN11 10/100	SGI	6901	3140
CRAY T3E-1200 System		P-SCSI0 Single Channel	SGI	6901	3141
CRAY T3E-1200 System		P-DD318 Ultra SCSI GB	SGI	6901	3142
CRAY T3E-1200 System	SCSI-2	P-SCSI0 Single Channel	SGI	6901	3143
CRAY T3E-1200 System	Disk Drive	P-DA308 Fibre Channel	SGI	6901	3144
CRAY T3E-1200 System	Interface	P-ATM10 ATM	SGI	6901	3145
CRAY T3E-1200 System	Switch	P-FDI10 FDDI Interface	SGI	6901	3146
CRAY T3E-1200 System		GRIO Additional GR Channel	SGI	6901	3147
CRAY T3E-1200 System		P-DD318 Ultra SCSI GB	SGI	6901	3148
Delphi	Compaq Server Rack Mount		Compaq	7928CMH10034	3320
Delphi	Hard Drive 18.2GB ULTRA2 SCSI			2B97DDC1C91B	3336
Delphi	Hard Drive 18.2GB ULTRA2 SCSI Smart Array Controller			IY99750OCQA	3356
Delphi	18.2 GB Hard Drive				4626
Delphi	18.2 GB Hard Drive				4627
Delphi	18.2 GB Hard Drive				4628
Delphi	18.2 GB Hard Drive				4629
Delphi	18.2 GB Hard Drive				4630
Delphi	18.2 GB Hard Drive				4631
Delphi	18.2 GB Hard Drive				4632
Delphi	18.2 GB Hard Drive				4633
Firewall-1	Ultra CPU		Sun	PR7C003408	2776
Firewall-2	Ultra CPU		Sun	PR7C006726	2779
Firewall-3	Ultra CPU		Sun	PR7C003314	2785
Firewall-4	Ultra CPU		Sun	PR7C007346	2782
Firewall-backup system	ULTRA 5 System For 2nd Firewall		Sun		4186
Hal	Proliant 1600R Server		Compaq	D902BWV10204	4613
Hal	CPQ Proliant LCD Display		Compaq		
Hera	Compaq Server Rack Mount		Compaq	D931CMH1A091	3319
Hera	CPU XEON 500MHZ				3331
Hera	CPU XEON 500MHZ				3335
IS	FDDI	Board	SGI	15141	2134
IS	Indigo X2	R4400 w/64 MB, 2 GB	SGI	08006907D1D2	2458

ATTACHMENT 2 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 1)

System/Location	Item	Description	Manufacturer	Serial Number	ID
IS	Indigo R4K	64 MB Upgrade	SGI	08006907D1D2	2459
IS	FDDI	Mezzamine Board	SGI	C8-FDDIXPHID	2969
IS	Disk Drive	9.1 GB	SGI	LM178292	3047
Juice	Compaq Server Rack Mount		Compaq	D29CWK1A085	3321
Juice	Hard Drive 18.2GB ULTRA2 SCSI			2B97DDC1B98P	3327
Juice	Hard Drive 18.2GB ULTRA2 SCSI			2B97DDC1C91A	3333
KDC	Racks and Rack Mount Kit For KDC				
KDC	Drive Cage Kit				
Kirby	CPQ Proliant Server - Kerberos Website		Compaq		
Lupo	Workstation	Indigo2	SGI	08006906C3DA	2360
Mosler safe	Security Container	GSA Class V Five draw	Mosler		
Networking	Cabinet		AMCO	N/A	1623
Networking	Ethernet Board	HSS	Cisco	N/A	1042
Networking	FDDI	Control Card	Cisco	227801	1441
Networking	FDDI	Control Card	Cisco	227809	1442
Networking	FDDI	Control Card	Cisco	227812	1443
Networking	Fiber Optic Board		Cisco	184869	1449
Networking	Fiber Optic Board		Cisco	225308	1450
Networking	Fiber Optic Board		Cisco	202255	1451
Networking	Ethernet Board	Port	Cisco	10296	1452
Networking	High Speed Ethernet	Port	Cisco	451207	2115
Networking	Server	CS-516	Cisco	BBL9171	2144
Networking	Router	3000	Cisco	33008956	2431
Networking	Terminal Server	2511	Cisco	250341051	2750
Networking	Router	7507	Cisco	76023542	2751
Networking	Switch-10/100	2926 Catalyst	Cisco	65306987	2751
Networking	HSSI Board		Cisco	6588609	2757
Networking	Processor	Interface	Cisco	6744159	2760
Networking	Processor	Interface	Cisco	6744318	2761
Networking	Ethernet Card		Cisco	N/A	2762
Networking	Serial	Port Adapter	Cisco	N/A	2763
Networking	FDDI	Port Adapter	Cisco	N/A	2764
Networking	Power Supply	Dual AC	Cisco	N/A	2769
Networking	Ethernet Card	Port Adapter	Cisco	N/A	2770
Networking	Ethernet Card	Card for 7507 Router	Cisco	66505816	3003
Networking	Switch-10/100	5505 Catalyst	Cisco	N/A	3078
Networking	Ethernet Card	10/100	Cisco	63079664	3091
Networking	Switch Probe	WS-PB8FEHD-TX-32	Cisco	FAA0249V04N	3277
Networking	Switch-10/100	18 Port WS-CZ916M-XL	Cisco	50010947	3282
Networking	Router	7505	Cisco	2891900	103394
Networking	FDDI		Cisco	2891621	103396
Networking	FDDI		Cisco	3180244	103397
Networking	Ethernet Board	6 Port	Cisco	3180244	103398
Networking	Ethernet Board	4 Port	Cisco	1247110106	103399
Networking	Multiplexor	DL3800	Digital Link		2907
Networking	HIPPI	Hippi Chassis	Essentials	608000102635	2710
Networking	HIPPI	Card	Essentials	608000102636	4000
Networking	HIPPI	Card	Essentials	608000102637	4001
Networking	HIPPI	Card	Essentials	608000102638	4002
Networking	HIPPI Switch		Network Systems	88032	1694

Category	Item	Model/Description	Manufacturer	Serial	ID
Networking	HIPPI Interface	VME	Network Systems	N/A	2145
Networking	HIPPI Chi	Systems Board	Network Systems	N/A	2146
Networking	HIPPI Chi	Systems Board	Network Systems	N/A	2147
Networking	HIPPI	Laser Extender	Network Systems	45	2148
Networking	HIPPI	Port Board		N/A	2214
Networking	HIPPI	Port Board		N/A	2215
Networking	HIPPI	Port Board		N/A	2216
Networking	HIPPI	Port Board		N/A	2217
OpenView System	Ultra CPU		Sun	808FC931	2797
OpenView System	Monitor		Sun	9742G15170	2798
OpenView System	Tape Unipak	DDS-3	Sun	N/A	2801
OpenView System	Disk Drive	Internal SCSI	Sun	9805D01515	2808
PC Server	PC	Pentium II 400 ARL-7200	Gateway	10515535	3081
PC workstation	Dell Systems	GX200	Dell	N/A	
PC workstation	Dell Systems	GX200	Dell		
PC workstation	Dell Systems	GX200	Dell		
PC workstation	CPU	GX110	Dell	7B9FY	3359
PC workstation	CPU	GX110	Dell	7B9GE	3361
PC workstation	CPU	GX110	Dell	7B9F7	3362
PC workstation	CPU	GX110	Dell	7B9FI	3366
PC workstation	CPU	GX200	Dell	13TP4	4246
PC workstation	Dell Systems	GX200	Dell		
PC workstation	Dell Systems	GX200	Dell		
PC workstation	Dell Systems	GX200	Dell		
PC workstation	Dell Systems	GX200	Dell		
PC workstation	Toshiba 7220 Laptop		Toshiba		
PC workstation	Toshiba 7220 Laptop		Toshiba		
PC workstation	Toshiba Tecra 8100 Laptop		Toshiba		
PC workstation	Toshiba 7220 Laptop		Toshiba		
PC workstation	Toshiba 7220 Laptop		Toshiba		
PC workstation	Toshiba LaptopS		Toshiba		
PC workstation	Toshiba Tecra 8100 Laptop		Toshiba		
PC workstation	Tecra 8000 Laptop		Toshiba	69796182A	4327
PC workstation	Toshiba 7220 Laptop		Toshiba		4684
PC workstation	Toshiba 7220 Laptop		Toshiba		4686
PC workstation	Monitor				
PC workstation	Monitor and Upgrade Gear				
PC workstation	TOS Tecra 8000				
PC-RAID-Server	Backup System	EXB-210	Exabyte	S30492888U	4503
PC-RAID-Server	RAID Disk	N/A	Telenet	11009124	3235
PC-RAID-Server	RADI Disk Controller	N/A	Telenet	not available	4150
Personal Computer	PC	Pentium II 450 Xeon 610	Dell	not available	4151
Personal Computer	PC		Gateway	NWDOM	4099
Personal Computer	Monitor		Gateway	8643831	2554
Personal Computer	PC		Gateway	709064237	2555
Personal Computer	PC		Gateway	11237240	2682
Personal Computer	PC	Pentium II 450 E-4200	Gateway	0011237241	2691
Personal Computer	PC	CPU and Monitor	Gateway	0009232130	2790
Personal Computer	PC		Gateway	9210392	2794
Personal Computer	PC	Pentium II 400 GP6-266	Gateway	0008462324	2920
Personal Computer	PC	Pentium II 400 GP6-266	Gateway	0008462322	2922
Personal Computer	PC	Pentium II 266 Solo 5100 SE	Gateway	0009655681	2983
Personal Computer	PC	Pentium II 266 Solo 5100 SE	Gateway	0009773499	2985
Personal Computer	PC	Pentium II 400 ARL-7200	Gateway	10515537	3079
Personal Computer	PC	Pentium II 400 ARL-7200	Gateway	10515536	3080

ATTACHMENT 2 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 1)

Category	Device	Model	Manufacturer	Serial	Tag
Personal Computer	PC	Pentium II 400 ARL-7200	Gateway	10515538	3082
Personal Computer	Monitor		Gateway	806029348	3171
Personal Computer	Monitor		Gateway	806029348	3171
Personal Computer	PC	Pentium II 400-Dual E-5200	Gateway	0010865069	3172
Personal Computer	PC	Pentium II 400 E-4200	Gateway	0011239245	3238
Personal Computer	Monitor		Gateway	806031223	3243
Personal Computer	PC	Pentium II 450 E-4200	Gateway	0011239244	3246
Personal Computer	Monitor		Gateway	806031225	3249
Personal Computer	PC	Pentium II 400 E-4200	Gateway	0011237242	3250
Personal Computer	PC	Pentium II 400 ARL-7200	Gateway	10520808	3263
Personal Computer	PC	Pentium II P5-90	Gateway	2685884	103172
Personal Computer	PC	Pentium II 266 Laptop Antage 700 J	Toshiba	X8139554A	2693
Personal Computer	PC	Pentium II 266 Laptop Antage 700 J	Toshiba	X8139365A	3227
Personal Computer	PC	Pentium II 266 Laptop Antage 700 J	Toshiba	X8139744A	3229
Printer	Color Laser Printer	Phaser 840	Tektronix	B9D4185	3378
Projector		LT80	NEC	85003859T	3088
Raid System	HIPPI Adapter	32 bit	Max Strat	SHPMS100436	2469
Raid System	HIPPI Adapter	64 bit	Max Strat		2469
Raid System	Redundancy N+1 power supply	Gen5	Max Strat		2469
Raid System	Storage Server	Gen5XL	Max Strat	000105	2469
Raid System	400 GB Disk Upgrade	14-230-0054	Max Strat		2970
Raid System	400 GB Disk Upgrade	14-230-0054	Max Strat		3041
Sal	Proliant 1600R Server		Compaq	D902BWV10237	4185
Sal	CPQ Proliant LCD Display		Compaq		4612
SGI	Workstation	Indigo2	SGI	08006906C415	2355
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA339545	4078
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA328497	4079
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA332988	4080
SGI Server I0	Workstation	Onyx	SGI	S29307	2257
SGI Server I0	Power Channel 2		SGI	S29307	2395
SGI Server I10	Disk Drive	9.1 GB	Seagate	LM178890	3048
SGI Server I10	Disk Drive	9.1 GB	Seagate	LM174490	3049
SGI Server I10	Disk Drive	9.1 GB	Seagate	LA325659	4076
SGI Server I10	Workstation	Power Challenge	SGI	S38140	no tag
SGI Server I2	Tape Drive	Surestre Dat24	HP	GB00606710	2679
SGI Server I2	Disk Drive	9.1 GB	Seagate	LA335719	4077
SGI Server I2	Workstation	Onyx	SGI	S29306	2258
SGI Server I4	System Disk	1GB	SGI	WS127729	2338
SGI Server I4	Workstation	Indigo2	SGI	08006906C405	2350
SGI Server I5	Workstation	Indigo2	SGI	08006906C403	2332
SGI Server I6	Workstation	Indigo2	SGI	08006906C40E	2337
SGI Sever I2	Tape Drive	EL820E	Exabyte	8545086	3237
SGI Workstation	O2 Workstation		SGI	0800690E87DB	4177
Skynet	Proliant 1600R Server		Compaq	D902BWV10522	4184
Skynet	CPQ Proliant LCD Display		Compaq		4611
Tape Drive	Tape Library	DLT 4700	Consan	CX63600699	103641
Test Equipment	Cable Tester		OmniScanner	50A98F00257	2700
Test network router	Router for Test Network		Cisco		
UPS System	UPS Board	By-pass	Muska Electric	N/A	1693
UPS System	Batteries for T3E UPS Systems				
Visualization System	A60 525 System		Abekas	ANCN344	1110
Visualization System	A60 Control Panel		Abekas	ANKN401	2099
Visualization System	Control Panel	A60	Abekas	ANKN401	2099

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System	Description	Specification	Manufacturer	Serial	Number
Visualization System	3/4 Umatic Editing		Blumberg Comm	13341	1257
Visualization System	Time Code Reader		Blumberg Comm	12901	1647
Visualization System	Monitor	44" Color	Blumberg Comm	110100324	1764
Visualization System	Recorder	SP Betacam	BTS	462	1256
Visualization System	Recorder	PBC-2800 Betacam	BTS	154	2119
Visualization System	Monitor	JVC 19"	CineQuipt	10360271	1202
Visualization System	Monitor	JVC 19"	CineQuipt	10360346	1203
Visualization System	Printer	Sublimation	Kodak	001	1639
Visualization System	Recorder	Solitaire	PictoGraphics	531	1100
Visualization System	Converter	Chromatek Down	Qutron	127295	1633
Visualization System	Glasses	Stereoview	SGI	P13377	2260
Visualization System	Cabinet	Video 72"	SGI	N/A	2418
Visualization System	Controller	V-Lan Receiver	Todd Comm	6472	1201
Visualization System	Controller	V-Lan Receiver	Todd Comm	9033	1453
Visualization System	Receiver	Video Media V-Lan	Todd Comm	12356	2120
Visualization System	Monitor	21" Color	Univ of MN	FS14608KA00	2136
Visualization System	Transmitter	VLXI-T600 Vlan	VideoMedia	7929	2919
Vizualization System	Reality Engine 2	Subsystem	SGI	1023293	2398
VPN router	VPN Client Connection	Atiga	Cisco	D902BWV10198	4183
Wintermute	Proliant 1600R Server		Compaq		4610
Wintermute	CPQ Proliant LCD Display		Compaq		3220
Workstation	Monitor	Sony 20"	SGI	08006908892A	103218
Workstation	Workstation	Indy R4600	SGI	08006908892A	103219
Workstation	Monitor	Sony 20"	SGI	2420189	1946
Workstation	Workstation	SparcStation	Sun	203F0429	1971
Workstation -s99	Workstation	SparcStation	Sun	204F0986	3318
Zeus	Compaq Server Rack Mount		Compaq	D931CMH1A003	
	CPQ Proliant Server		Compaq		
	CPQ Server AND Server		Compaq		
	Upgrades				
	GRP F5 Basic OTC 1-2		IBM	N/A	1298
	GRP F5 Basic OTC3 32		IBM	N/A	1298
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4000751	2462
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002689	2463
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002564	2464
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002142	2465
	Seagate SCSI 9.1 GB Drives		Seagate		
	SCSI Regenerator				
	SCSI Regenerator				
	24 Dataport Cables				
	128 MB Memory Upgrade				

SV2 RELATED EQUIPMENT	DMF DATA BASE LICENSE	BIRDSTEP TECH	
	UNIX LICENSE	CALDERA SYSTEMS	
	3508G XL GIGE SWITCH	CISCO	
	ML370 1.2 GHZ, 256MB RAM	COMPAQ	
	ML370 1.2 GHZ, 256MB RAM	COMPAQ	
	SV2 AC SUPERCOMPUTER CABINET AND IOC CABINET	CRAY	4398
	SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY	4526

SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
IOC CABINET	CRAY
IOCA DRAWER	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACHED DISK TRAY (.5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACHED DISK TRAY (.5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACH DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
ION SUN F4800; BASE CONFIG (8P, 8 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK) ION SUN F4800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION-SUN F6800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY

Description	
ION-SUN F6800; BASE CONFIG (24P, 24 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA,; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA,; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA,; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA,; ION TO FC RAID CNTRL CONN	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT TETHERNET HBA OR FDDI	CRAY
ION 10/100 ETHERNET HBA	CRAY
ION OC12 ATM HBA	CRAY
ION OC48 ATM HBA	CRAY
ION HIPPI HBA	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY

Item	Vendor
ION ATTACHED DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
SPC CABLES (1 CHANNEL)	CRAY
PERIPHERAL CABINET	CRAY
SV2 AC SUPERCOMPUTER CABINET AND IOC CABINET	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
IOC CABINET	CRAY
IOCA DRAWER	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACHED DISK TRAY (.5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACHED DISK TRAY (.5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACH DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
ION SUN F4800; BASE CONFIG (8P, 8 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY

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ION SUN F4800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION-SUN F6800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION-SUN F6800; BASE CONFIG (24P, 24 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT TETHERNET HBA OR FDDI	CRAY
ION 10/100 ETHERNET HBA	CRAY
ION OC12 ATM HBA	CRAY
ION OC48 ATM HBA	CRAY
ION HIPPI HBA	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY

Item	Vendor
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
SPC CABLES (1 CHANNEL)	CRAY
SPC CABLES (1 CHANNEL)	CRAY
PERIPHERAL CABINET	CRAY
SV2 OS - BINARY	CRAY
SV2 OS SOURCE LICENSE	CRAY
DMF SOURCE LICENSE - UP TO FIVE (5) SV2 SYSTEMS	CRAY
SV2 CF90 PROGRAMMING ENVIRONMENT	CRAY
SV2 C++ PROGRAMMING ENVIRONMENT	CRAY
SV2 MESSAGE PASSING TOOLKIT	CRAY
SV2 VERIDIAN PBS PRO	CRAY
SV2 ION SW	CRAY
SV2 OS - BINARY	CRAY
SV2 CF90 PROGRAMMING ENVIRONMENT	CRAY
SV2 C++ PROGRAMMING ENVIRONMENT	CRAY
SV2 MESSAGE PASSING TOOLKIT	CRAY
SV2 VERIDIAN PBS PRO	CRAY
SV2 ION SW	CRAY
SPC CABLES (1 CHANNEL)	CRAY
SERIAL HIPPI PCI NIC	ESSENTIAL
SERIAL HIPPI PCI NIC	ESSENTIAL
QLA2300F FC PCI HBA	QLOGIC
QLA2300F FC PCI HBA	QLOGIC
SANBOX 2-16	
SANBOX 2-16	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	

ATTACHMENT 2 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 1)

SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
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SFP (SHORTWAVE)
SFP (SHORTWAVE)
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SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
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10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
SERIAL HIPPI CABLE
SERIAL HIPPI CABLE
ESSENTIAL SERIAL HIPPI INTERFACE
ESSENTIAL SERIAL HIPPI INTERFACE
CPU 1.2 GHZ
CPU 1.2 GHZ
INTEGRATED RAID DISK CONTROLLER
INTEGRATED RAID DISK CONTROLLER
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK

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ATTACHMENT 2 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 1)

36 GB DISK
REDUNDANT POWER SUPPLY
REDUNDANT POWER SUPPLY
SIMPLE TECH 512MB MEMORY UPGRADE
SIMPLE TECH 512MB MEMORY UPGRADE
SIMPLE TECH 512MB MEMORY UPGRADE
SIMPLE TECH 512MB MEMORY UPGRADE
1000 BASE SX FIBRE CABLES
1000 BASE SX FIBRE CABLES
1000 BASE SX FIBRE CABLES
1000 BASE SX FIBRE CABLES
1000 BASE SX PCI NIC FOR FILE SERVER
1000 BASE SX PCI NIC FOR FILE SERVER
RACK

CRAY SV2

Operating System Software	Quantity
SV2 OS - Binary	2
SV2 OS Source License	1
DMF Source License - up to five (5) S	1
SV2 CF90 Programming Environment	2
SV2 C++ Programming Environment	2
SV2 Message Passing Toolkit	2
SV2 Veridian PBS Pro	2
SV2 ION SW	2
Sub-total	
SV2 Caldera UNIX License	1
SV2 DMF Data Base License	1
Total	

CRAY SV2

Operating System Software	Quantity
SV2 OS - Binary	2
SV2 OS Source License	1
DMF Source License - up to five (5) S	1

14

SV2 CF90 Programming Environment	2
SV2 C++ Programming Environment	2
SV2 Message Passing Toolkit	2
SV2 Veridian PBS Pro	2
SV2 ION SW	2
Sub-total	
SV2 Caldera UNIX License	1
SV2 DMF Data Base License	1

Application Software - N/A

CRAY T3E

Operating System Software

Caldera UNIX Source Code License f(	1
UNICOS/mk system software license	1
Cray CF90 Prog Env	1
Cray C++ Prog Env	1
Cray General purpose C++ libs	1
Cray C++ Math Libraries	1
Cray Message Passing Toolkit	1
UNICOS/mk license fee	1
Portland Group HPF - Unlimited Numl	1
UNICOS Source Materials	1
Cray Visualization Toolkit	1
Cray Network Queueing Environment	1
Cray ONC+	1
HIPPI Driver	1
Cray Data Migration Facility 136 PE B	1
Cray Data Migration Facility per PE uf	376
Cray Tape Mgmt Facility 136 PE base	1
Cray Tape Mgmt Facility per PE upgr(	1
Device drivers for STK Redwood 136	1
Device drivers for STK Redwood 136	376

Application Software

Gaussian 98 & Linda v.	
Gamess-UK	
Gamess-US	
Amber 6	

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
AFS servers	AFS Drives				
AFS servers	8MM Tape Drive			00012751	4360
AFS servers	8MM Tape Drive			56414-26	4361
AFS servers	8MM Tape Drive			56414-26	4362
AFS-1	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494603	2557
AFS-1	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494713	2560
AFS-1	Monitor	21-18950	IBM	21-18950	2928
AFS-1	Workstation Server		IBM	10-33954	2929
AFS-2	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494681	2558
AFS-2	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494684	2561
AFS-2	Workstation Server		IBM	10-33953	2931
AFS-3	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494678	2559
AFS-3	4-Disks and Disk Cabinet	4501 MB	DC Drives	A494627	2562
AFS-3	Workstation Server		IBM	10-33952	2933
AFS-4	Indigo2	100 MHz	SGI	080069075A98	2396
AFS-4	Indigo2	Upgrade	SGI	223136645	2396
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001068	2263
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001069	2264
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001065	2265
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001066	2266
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001061	2267
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001064	2268
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001062	2269
Ciprico Disk Array	Differential Desk Top Enclosure		Ciprico	001067	2270
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6070	2239
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6018	2240
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6075	2241
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6022	2242
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6037	2243
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6057	2244
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6052	2245
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6735	2246
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6053	2247
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6074	2248
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6023	2249
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6068	2250
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3804	2271
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3813	2272
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3785	2273
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3749	2274
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3764	2275
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3742	2276
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3343	2277
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3596	2278
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2411	2279
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1794	2280
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1589	2281
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2570	2282
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1989	2283
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2808	2284

Owner	Item	Description	Vendor	Serial	ID
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2449	2285
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2418	2286
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1199	2287
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2366	2288
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2652	2289
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2672	2290
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2793	2291
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1977	2292
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2917	2293
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2600	2294
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2416	2295
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2645	2296
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2352	2297
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2483	2298
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1548	2299
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1982	2300
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1521	2301
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2463	2302
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2245	2303
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2650	2304
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2308	2305
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1014	2306
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2639	2307
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2497	2308
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1138	2309
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1857	2310
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2426	2311
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1783	2312
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	2656	2313
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	0404	2314
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	1644	2315
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3821	2316
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3569	2317
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3790	2318
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3595	2319
Ciprico Disk Array	Disk Drive	2500 MB 3.5" Seagate	NPI	3339	2320
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6145	2367
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6294	2368
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5678	2369
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6289	2370
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6267	2371
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6202	2372
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5981	2373
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5193	2374
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	6142	2375
Ciprico Disk Array	Disk Drive	2400 MB 3.5" SCSI	NPI	5730	2376
Ciprico Disk Array	Cabinet	77" Stand with 19" Rack	NPI	N/A	2377
Delphi	Compaq Server Rack Mount	Hard Drive 18.2GB ULTRA2	Compaq	7928CMH10034	3320
Delphi	SCSI	Hard Drive 18.2GB ULTRA2		2B97DDC1C91B	3336
Delphi	SCSI			IY997500CQA	3356
Delphi	Smart Array Controller				4626
Delphi	18.2 GB Hard Drive				4627

ATTACHMENT 3 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 2)

Location	Description	Manufacturer	Serial Number	ID
Delphi	18.2 GB Hard Drive			4628
Delphi	18.2 GB Hard Drive			4629
Delphi	18.2 GB Hard Drive			4630
Delphi	18.2 GB Hard Drive			4631
Delphi	18.2 GB Hard Drive			4632
Delphi	18.2 GB Hard Drive			4633
Firewall-1	Ultra CPU	Sun	PR7C003408	2776
Firewall-2	Ultra CPU	Sun	PR7C006726	2779
Firewall-3	Ultra CPU	Sun	PR7C003314	2785
Firewall-4	Ultra CPU	Sun	PR7C007346	2782
Firewall-backup system	ULTRA 5 System For 2nd Firewall	Sun		
Hal	Proliant 1600R Server	Compaq	D902BWV10204	4186
Hal	CPQ Proliant LCD Display	Compaq		4613
Hera	Compaq Server Rack Mount	Compaq	D931CMH1A091	3319
Hera	CPU XEON 500MHZ			3331
Hera	CPU XEON 500MHZ			3335
IS	FDDI Board	SGI	15141	2134
IS	Indigo X2	SGI	08006907D1D2	2458
IS	Indigo R4K R4400 w/64 MB, 2 GB	SGI	08006907D1D2	2459
IS	FDDI 64 MB Upgrade	SGI	C8-FDDIXPHID	2969
IS	Disk Drive Mezzamine Board	SGI	LM178292	3047
IS	9.1 GB	Compaq	D29CWK1A085	3321
Juice	Compaq Server Rack Mount, Hard Drive 18.2GB ULTRA2, SCSI		2B97DDC1B98P	3327
Juice	Hard Drive 18.2GB ULTRA2, SCSI		2B97DDC1C91A	3333
Juice	Racks and Rack Mount Kit For KDC			
KDC	Drive Cage Kit			
KDC	CPQ Proliant Server - Kerberos			
Kirby	Website	Compaq	08006906C3DA	2360
Lupo	Workstation Indigo2	SGI	N/A	1623
Mosler safe	Security Container GSA Class V Five draw	Mosler	N/A	1042
Networking	Cabinet	AMCO		
Networking	Ethernet Board HSS	Cisco		
Networking	FDDI Control Card	Cisco	227801	1441
Networking	FDDI Control Card	Cisco	227809	1442
Networking	FDDI Control Card	Cisco	227812	1443
Networking	Fiber Optic Board	Cisco	184869	1449
Networking	Fiber Optic Board	Cisco	225308	1450
Networking	Fiber Optic Board	Cisco	202255	1451
Networking	Ethernet Board Port	Cisco	10296	1452
Networking	High Speed Ethernet Port	Cisco	451207	2115
Networking	Server CS-516	Cisco	BBL9171	2144
Networking	Router 3000	Cisco	33008956	2431
Networking	Terminal Server 2511	Cisco	250341051	2750
Networking	Router 7507	Cisco	76023542	2751
Networking	Switch-10/100 2926 Catalyst	Cisco	65306987	2751
Networking	HSSI Board	Cisco	6588609	2757
Networking	Processor Interface	Cisco	6744159	2760
Networking	Processor Interface	Cisco	6744318	2761
Networking	Ethernet Card	Cisco	N/A	2762
Networking	Serial Port Adapter	Cisco	N/A	2763

Category	Item	Description	Manufacturer	Model/Serial	Number
Networking	FDDI	Port Adapter	Cisco	N/A	2764
Networking	Power Supply	Dual AC	Cisco	N/A	2769
Networking	Ethernet Card	Port Adapter	Cisco	N/A	2770
Networking	Ethernet Card	Card for 7507 Router	Cisco	N/A	3003
Networking	Switch-10/100	5505 Catalyst	Cisco	66505816	3078
Networking	Ethernet Card	10/100	Cisco	N/A	3091
Networking	Switch Probe	WS-PB8FEHD-TX-32	Cisco	63079664	3277
Networking	Switch-10/100	18 Port WS-CZ916M-XL	Cisco	FAA0249V04N	3282
Networking	Router	7505	Cisco	50010947	103394
Networking	FDDI		Cisco	2891900	103396
Networking	FDDI		Cisco	2891621	103397
Networking	Ethernet Board	6 Port	Cisco	3180244	103398
Networking	Ethernet Board	4 Port	Cisco	3180244	103399
Networking	Multiplexor	DL3800	Digital Link	1247110106	2907
Networking	HIPPI	Hippi Chassis	Essentials	608000102635	2710
Networking	HIPPI	Card	Essentials	608000102636	4000
Networking	HIPPI	Card	Essentials	608000102637	4001
Networking	HIPPI	Card	Essentials	608000102638	4002
Networking	HIPPI Switch	VME	Network Systems	88032	1694
Networking	HIPPI Interface	Systems Board	Network Systems	N/A	2145
Networking	HIPPI Chi	Systems Board	Network Systems	N/A	2146
Networking	HIPPI Chi	Laser Extender	Network Systems	N/A	2147
Networking	HIPPI	Port Board	Network Systems	45	2148
Networking	HIPPI	Port Board		N/A	2214
Networking	HIPPI	Port Board		N/A	2215
Networking	HIPPI	Port Board		N/A	2216
Networking	HIPPI	Port Board		N/A	2217
OpenView System	Ultra CPU		Sun	808FC931	2797
OpenView System	Monitor		Sun	9742G15170	2798
OpenView System	Tape Unipak	DDS-3	Sun	N/A	2801
OpenView System	Disk Drive	Internal SCSI	Sun	9805D01515	2808
PC Server	PC	Pentium II 400 ARL-7200	Gateway	10515535	3081
Printer	Color Laser Printer	Phaser 840	Tektronix	B9D4185	3378
Projector		LT80	NEC	85003859T	3088
Raid System	HIPPI Adapter	32 bit	Max Strat	SHPMS100436	2469
Raid System	HIPPI Adapter	64 bit	Max Strat		2469
Raid System	Redundancy N+1 power supply	Gen5	Max Strat		2469
Raid System	Storage Server	Gen5XL	Max Strat		2469
Raid System	400 GB Disk Upgrade	14-230-0054	Max Strat		2970
Raid System	400 GB Disk Upgrade	14-230-0054	Max Strat	000105	3041
Sal	Proliant 1600R Server		Compaq	D902BWV10237	4185
Sal	CPQ Proliant LCD Display		Compaq		4612
SGI	Workstation	Indigo2	SGI	08006906C415	2355
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA339545	4078
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA328497	4079
SGI Server I0	Disk Drive	9.1 GB	Seagate	LA332988	4080
SGI Server I0	Workstation	Onyx	SGI	S29307	2257
SGI Server I0	Power Channel 2		SGI	S29307	2395
SGI Server I10	Disk Drive	9.1 GB	Seagate	LM178890	3048
SGI Server I10	Disk Drive	9.1 GB	Seagate	LM174490	3049
SGI Server I10	Disk Drive	9.1 GB	Seagate	LA325659	4076
SGI Server I10	Workstation	Power Challenge	SGI	S38140	no tag
SGI Server I2	Tape Drive	Surestre Dat24	HP	GB00606710	2679
SGI Server I2	Disk Drive	9.1 GB	Seagate	LA335719	4077

Name	Description	Model	Manufacturer	Serial	ID
SGI Server I2	Workstation	Onyx	SGI	S29306	2258
SGI Server I4	System Disk	1GB	SGI	WS127729	2338
SGI Server I4	Workstation	Indigo2	SGI	08006906C405	2350
SGI Server I5	Workstation	Indigo2	SGI	08006906C403	2332
SGI Server I6	Workstation	Indigo2	SGI	08006906C40E	2337
SGI Sever I2	Tape Drive	EL820E	Exabyte	8545086	3237
SGI Workstation	O2 Workstation		SGI	0800690E87DB	4177
Skynet	Proliant 1600R Server		Compaq	D902BWV10522	4184
Skynet	CPQ Proliant LCD Display		Compaq		4611
Tape Drive	Tape Library	DLT 4700	Consan	CX63600699	103641
Test Equipment	Cable Tester		OmniScanner	50A98F00257	2700
Test network router	Router for Test Network		Cisco		
UPS System	UPS Board	By-pass	Muska Electric	N/A	1693
UPS System	Batteries for UPS Systems				
VPN router	VPN Client Connection	Atiga	Cisco		
Wintermute	Proliant 1600R Server		Compaq	D902BWV10198	4183
Wintermute	CPQ Proliant LCD Display		Compaq		4610
Workstation	Monitor	Sony 20"	SGI	08006908892A	3220
Workstation	Workstation	Indy R4600	SGI	08006908892A	103218
Workstation	Monitor	Sony 20"	SGI	2420189	103219
Workstation	Workstation	SparcStation	Sun	203F0429	1946
Workstation -s99	Workstation	SparcStation	Sun	204F0986	1971
Zeus	Compaq Server Rack Mount		Compaq	D931CMH1A003	3318
	CPQ Proliant Server		Compaq		
	CPQ Server AND Server Upgrades		Compaq		
	GRP F5 Basic OTC 1-2		IBM	N/A	1298
	GRP F5 Basic OTC3 32		IBM	N/A	1298
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4000751	2462
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002689	2463
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002564	2464
	Disk Drive	5150 MB 3.5" SCSI	NPI	N4002142	2465
	Seagate SCSI 9.1 GB Drives		Seagate		
	SCSI Regenerator				
	SCSI Regenerator				
	24 Dataport Cables				
	128 MB Memory Upgrade				
SV2 RELATED EQUIPMENT	DMF DATA BASE LICENSE		BIRDSTEP TECH		
	UNIX LICENSE		CALDERA SYSTEMS		
	3508G XL GIGE SWITCH		CISCO		
	ML370 1.2 GHZ, 256MB RAM		COMPAQ		
	ML370 1.2 GHZ, 256MB RAM		COMPAQ		
	SV2 AC SUPERCOMPUTER CABINET AND IOC CABINET		CRAY		
	SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY		CRAY		4398
	SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY		CRAY		4526

Item	Vendor
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
IOC CABINET	CRAY
IOCA DRAWER	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACHED DISK TRAY (5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACHED DISK TRAY (5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACH DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
ION SUN F4800; BASE CONFIG (8P, 8 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION SUN F4800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION-SUN F6800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION-SUN F6800; BASE CONFIG (24P, 24 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY

ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT THERNET HBA OR FDDI	CRAY
ION GIGABIT TETHERNET HBA OR FDDI	CRAY
ION 10/100 ETHERNET HBA	CRAY
ION OC12 ATM HBA	CRAY
ION OC48 ATM HBA	CRAY
ION HIPPI HBA	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED FC RAID CNTRL	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
SPC CABLES (1 CHANNEL)	CRAY

PERIPHERAL CABINET	CRAY
SV2 AC SUPERCOMPUTER CABINET AND IOC CABINET	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
SV2 NODE MODULE W/4 12.8 FGLOPS CPUS AND 16 GB OF MEMORY	CRAY
IOC CABINET	CRAY
IOCA DRAWER	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DUAL PORT 2GBITS FC HBA + 2 FC CABLES; RAID CNTRL & ION CONN	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACH 2 GBITS FC RAID CNTRL	CRAY
DIRECT ATTACHED DISK TRAY (5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACHED DISK TRAY (5TBYTES W/36 GBYTES SPINDLES)	CRAY
DIRECT ATTACH DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	CRAY
ION SUN F4800; BASE CONFIG (8P, 8 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY
ION SUN F4800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK)	CRAY

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ION-SUN F6800; BASE CONFIG (12P, 12 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK) — CRAY

ION-SUN F6800; BASE CONFIG (24P, 24 GBYTES MEM, W/MEDIA TRAY & 2 18 GBYTES DISK) — CRAY

ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA ION TO SV2 CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN — CRAY

ION SINGLE PORT 2 GBITS FC HBA; ION TO FC RAID CNTRL CONN — CRAY

ION GIGABIT THERNET HBA OR FDDI — CRAY

ION GIGABIT THERNET HBA OR FDDI — CRAY

ION GIGABIT TETHERNET HBA OR FDDI — CRAY

ION 10/100 ETHERNET HBA — CRAY

ION OC12 ATM HBA — CRAY

ION OC48 ATM HBA — CRAY

ION HIPPI HBA — CRAY

ION ATTACHED FC RAID CNTRL — CRAY

ION ATTACHED FC RAID CNTRL — CRAY

ION ATTACHED FC RAID CNTRL — CRAY

ION ATTACHED FC RAID CNTRL — CRAY

ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES) — CRAY

ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES) — CRAY

Item	Vendor
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (.5 TBYTES W/36 GBYTES SPINDLES)	CRAY
ION ATTACHED DISK TRAY (1 TBYTES W/73 GBYTES SPINDLES)	
SPC CABLES (1 CHANNEL)	CRAY
SPC CABLES (1 CHANNEL)	CRAY
PERIPHERAL CABINET	CRAY
SV2 OS - BINARY	CRAY
SV2 OS SOURCE LICENSE	CRAY
DMF SOURCE LICENSE - UP TO FIVE (5) SV2 SYSTEMS	CRAY
SV2 CF90 PROGRAMMING ENVIRONMENT	CRAY
SV2 C++ PROGRAMMING ENVIRONMENT	CRAY
SV2 MESSAGE PASSING TOOLKIT	CRAY
SV2 VERIDIAN PBS PRO	CRAY
SV2 ION SW	CRAY
SV2 OS - BINARY	CRAY
SV2 CF90 PROGRAMMING ENVIRONMENT	CRAY
SV2 C++ PROGRAMMING ENVIRONMENT	CRAY
SV2 MESSAGE PASSING TOOLKIT	CRAY
SV2 VERIDIAN PBS PRO	CRAY
SV2 ION SW	CRAY
SPC CABLES (1 CHANNEL)	CRAY
SERIAL HIPPI PCI NIC	ESSENTIAL
SERIAL HIPPI PCI NIC	ESSENTIAL
QLA2300F FC PCI HBA	QLOGIC
QLA2300F FC PCI HBA	QLOGIC
SANBOX 2-16	
SANBOX 2-16	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	
SFP (SHORTWAVE)	

ATTACHMENT 3 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE LOCATED AT THE CORE SITE (Representative Task 2)

SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
SFP (SHORTWAVE)
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
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10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
10M FIBRE CABLE
SERIAL HIPPI CABLE
SERIAL HIPPI CABLE
ESSENTIAL SERIAL HIPPI INTERFACE
ESSENTIAL SERIAL HIPPI INTERFACE
CPU 1.2 GHZ
CPU 1.2 GHZ
INTEGRATED RAID DISK CONTROLLER
INTEGRATED RAID DISK CONTROLLER
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
36 GB DISK
REDUNDANT POWER SUPPLY

REDUNDANT POWER
SUPPLY
SIMPLE TECH 512MB
MEMORY UPGRADE
SIMPLE TECH 512MB
MEMORY UPGRADE
SIMPLE TECH 512MB
MEMORY UPGRADE
SIMPLE TECH 512MB
MEMORY UPGRADE

1000 BASE SX FIBRE CABLES

1000 BASE SX FIBRE CABLES

1000 BASE SX FIBRE CABLES

1000 BASE SX FIBRE CABLES
1000 BASE SX PCI NIC FOR
FILE SERVER
1000 BASE SX PCI NIC FOR
FILE SERVER
RACK

CRAY SV2

Operating System Software	Quantity
SV2 OS - Binary	2
SV2 OS Source License	1
DMF Source License - up to five (5) S	1
SV2 CF90 Programming Environment	2
SV2 C++ Programming Environment	2
SV2 Message Passing Toolkit	2
SV2 Veridian PBS Pro	2
SV2 ION SW	2
Sub-total	
SV2 Caldera UNIX License	1
SV2 DMF Data Base License	1
Total	

CRAY SV2

Operating System Software	Quantity
SV2 OS - Binary	2
SV2 OS Source License	1
DMF Source License - up to five (5) S	1
SV2 CF90 Programming Environment	2
SV2 C++ Programming Environment	2
SV2 Message Passing Toolkit	2

| SV2 Veridian PBS Pro | 2 |
| SV2 ION SW | 2 |

Sub-total

| SV2 Caldera UNIX License | 1 |
| SV2 DMF Data Base License | 1 |

Application Software - N/A

UNIVERSITY OF MINNESOTA LOCATION

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.	UM TAG #
Videoconferencing System	Computer	Media Max	V-Tel	3424ZAMC2539	N/A	199517052
Videoconferencing System	Imaging Unit	Multiband	V-Tel	not available	N/A	199517048
Videoconferencing System	Pen Unit		V-Tel	017843	N/A	199517094
Videoconferencing System	Projector		V-Tel	not available	N/A	199517051
Videoconferencing System	TV Monitor	27"	V-Tel	7087266	N/A	199517045
Videoconferencing System	TV Monitor	27"	V-Tel	7099764	N/A	199517046
Videoconferencing System	Video Camera		V-Tel	103502075	N/A	199517044
Videoconferencing System	Cabinet		V-Tel	N/A	N/A	?
Videoconferencing System	Keyboard		V-Tel	N/A	N/A	199500916
Videoconferencing System	Computer	Media Max	V-Tel	not available	N/A	199500918
Videoconferencing System	Imaging unit	Multiband	V-Tel	not available	N/A	199500914
Videoconferencing System	Pen Unit		V-Tel	not available	N/A	199500915
Videoconferencing System	Projector		V-Tel	not available	N/A	199500917
Videoconferencing System	TV Monitor	27"	V-Tel	not available	N/A	199500911
Videoconferencing System	TV Monitor	27"	V-Tel	not available	N/A	199500912
Videoconferencing System	Video Camera		V-Tel	not available	N/A	199500910
Videoconferencing System	Cabinet		V-Tel	N/A	N/A	199500913
Videoconferencing System	Keyboard		V-Tel	N/A	N/A	199500916
Workstation	Workstation	Indy	SGI	080069088A23	N/A	199512090
Workstation	Workstation	Indy	SGI	08006908BD24	N/A	199512104
Workstation	Workstation	Indy	SGI	08006908BD1D	N/A	199512105
Workstation	Workstation	Indy	SGI	080069088A29	N/A	199512079
Workstation	Workstation	Indy	SGI	080069088A30	N/A	199512095
Workstation	Workstation	Indy	SGI	080069088A2B	N/A	199512093
Workstation	Workstation	Indy	SGI	080069088A2E	N/A	199512094
Workstation	Workstation	Indy	SGI	080069088A24	N/A	199512077
Workstation	Workstation	Indy	SGI	080069088A3B	N/A	199512100
Workstation	Workstation	Indy	SGI	080069088A1C	N/A	199512074
Workstation	Workstation	Indy	SGI	080069088A1D	N/A	199512088
Workstation	Workstation	Indy	SGI	080069088A39	N/A	199512099
Workstation	Workstation	Indy	SGI	080069088A25	N/A	199512091
Workstation	Workstation	Indy	SGI	08006908BD1F	N/A	199512103
Workstation	Workstation	Indy	SGI	080069088A3A	N/A	199512086
Workstation	Workstation	Indy	SGI	08006908BD22	N/A	199512106
Workstation	Workstation	Indy	SGI	080069088A37	N/A	199512098
Workstation	Workstation	Indy	SGI	080069089943	N/A	199512102
Workstation	Workstation	Indy	SGI	080069088A2F	N/A	199512081
Workstation	Workstation	Indy	SGI	08006908BD39	N/A	199512107
Workstation	Workstation	Indy	SGI	080069088A31	N/A	199512082
Workstation	Workstation	Indy	SGI	080069088A33	N/A	199512083
Workstation	Workstation	Indy	SGI	080069088A20	N/A	199512089
Workstation	Workstation	Indy	SGI	080069088A2D	N/A	199512080
Workstation	Workstation	Indy	SGI	080069088A38	N/A	199512085
Workstation	Workstation	Indy	SGI	080069088A21	N/A	199512076
Workstation	Workstation	Indy	SGI	080069088A40	N/A	199512101
Workstation	Workstation	Indy	SGI	080069088A35	N/A	199512084

ATTACHMENT 4 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE AT AHPCRC PARTNER INSTITUTIONS (Representative Task 1)

System ID	Machine Type	Model No.	Vendor	Serial No.	AHPCRC No.	
	Workstation	Indy	SGI	080069088A3F	N/A	199512075
	Workstation	Indy	SGI	080069088A32	N/A	199512096
	Workstation	Indy	SGI	080069088A28	N/A	199512092
	Workstation	Indy	SGI	080069088A27	N/A	199512078
	Workstation	Indy	SGI	080069088DD0	N/A	199513472
	Workstation	Indy	SGI	080069088AEB	N/A	199513473
	Workstation	Indy	SGI	080069088B15	N/A	199513476
	Workstation	Indy	SGI	080069088DD2	N/A	199513477
	Workstation	Indy	SGI	080069088009	N/A	199513470
	Workstation	Indy	SGI	080069088DD3	N/A	199513471
	Workstation	Indy	SGI	080069088AEF	N/A	199513474
	Workstation	Indy	SGI	080069088001	N/A	199513475

CLARK ATLANTA UNIVERSITY LOCATION

System ID	Machine Type	Model No.	Vendor	Serial No.	AHPCRC No.	
CAU-IBM SP System	Ascend Router	9077	IBM	02-10015	2606	
CAU-IBM SP System	Control Workst	7012-397	IBM	10-96872	2607	
CAU-IBM SP System	Hub	8222-008	IBM	23-F4062	N/A	
CAU-IBM SP System	Monitor	65555-773	IBM	66-B1302	2608	
CAU-IBM SP System	RS/6000 SP	Frame 1 90'	IBM	02-85157	2604	
CAU-IBM SP System	RS/6000 SP	Frame 2 90'	IBM	02-85157	2605	
CAU-IBM SP System	SSA Disk Array	7033-600	IBM	13-W002	pending	
CAU-IBM SP System	Tape Library	DLT 4700	Evolving S	106637	pending	
Firewall	Sun Monitor	X7103A	IntraNet	9728KC0342	2789	
Firewall	Sun Ultra 5	A21-UFE1A	IntraNet	FW80906458	2779	
Networking	Ethernet Card		Cisco	06769119	2724	
Networking	Ethernet Card		Cisco	07291300	2725	
Networking	Router	4700-M	Cisco	47543064	2603	
Networking	Serial Port		Cisco	07171175	2726	
Networking	Switch Probe	WS-PB8FE	Cisco	63079660	2711	
Networking	Switch-10/100	2926 Cataly	Cisco	65308008	2567	
Networking	Terminal Serve	2509	Cisco	250367642	2602	
Personal Computer	PC	GP6-266 LF	Gateway	9460016	2828	
Personal Computer	PC	SOLO 2300	Gateway	BC98080643	2843	
Tape Drive System	Auto Loader	DLT	Cisco	CS8170033	3050	
UPS System		EPS3036/2	MGE	100455-00	2593	
Visualization System	FDDI 2 port du	C8-FDDIXP	SGI	N/A	internal	
Visualization System	Monitor	UPM24G	SGI	2002097	3081	
Visualization System	Onyx2 Workst	CMN A015	SGI	K0013128	2960	
Visualization System	Tape Drive	TH5FA-YF	SGI	CX81700330	2962	
Visualization System	XT-HIPPI	800-SER	SGI	N/A	internal	
Workstation	Monitor	Onyx 24"	SGI	2002097	2961	
Workstation	Workstation	Indy	SGI	080069088850	2521	
AFS server	CPQ Proliant 1600R	cpq-123738-01	Compaq		4599	
AFS server	CPQ Redundant Power Supply	CPQ-107167	Compaq		4600	

ATTACHMENT 4 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE AT AHPCRC PARTNER INSTITUTIONS (Representative Task 1)

	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
AFS server	CPQ Proliant LCD Display Kingston 256MB	CPQ-264377-b23	Compaq		4601
AFS server	Memory		Compaq		4605
Networking	Cisco Catalyst 4003 Switch	WS-C4003-S1 Dual AC Power Supply	Cisco	FOX03400083	3385
Networking	Catalyst 4000 Power Supply	Option	Cisco		4546
Networking	CATALYST 4000 10/100	32 port 2 gig module	Cisco		4550
Networking	Cisco 2620 Router		Cisco	JAB034988FJ	3389
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4455
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4456
Networking	16 Port ASYNC Module	NM-16A	Cisco		4462

HOWARD UNIVERSITY LOCATION

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
Firewall	Sun Monitor	X7103A	IntraNet	9728KC0343	2787
Firewall	Sun Ultra 5	A21-UFE1A	IntraNet	FW80906460	2776
Howard IBM SP System	Ascend Router	9077	IBM	10045	pending
Howard IBM SP System	Control Workst	7012-397	IBM	97752	2650
Howard IBM SP System	Disk Drive	9.1 GB Ultra	IBM	N/A	pending
Howard IBM SP System	Memory	4-256 MB D	IBM	N/A	pending
Howard IBM SP System	Monitor	6558-03N	IBM	55-05564	2651
Howard IBM SP System	RS/6000 SP	Frame 1 90'	IBM	02-90153	2648
Howard IBM SP System	RS/6000 SP	Frame 2 90'	IBM	02-90153	2649
Howard IBM SP System	SSA Disk Array	7033-600	IBM	L0949	2654
Howard IBM SP System	Tape Library	DLT 4700	Evolving S	CX8170073	2972
Networking	Ethenet Module	4700	Cisco	07D171054	2994
Networking	Processor	FDDI	Cisco	3440502	2999
Networking	Router	4700-M	Cisco	47546785	2644
Networking	Serial Port Module		Cisco	07370427	2995
Networking	Switch Probe	WS-PB8FE	Cisco	63079661	2712
Networking	Switch-10/100	2926 Cataly	Cisco	65310003	2639
Networking	Terminal Serve	2509	Cisco	250439054	2645
PC Server	Server		Gateway	10515536	3080
Personal Computer	PC	2300 SL La	Gateway	0009404600	2888
Personal Computer	PC	GP6-266 Cf	Gateway	0009454457	2886

ATTACHMENT 4 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE AT AHPCRC PARTNER INSTITUTIONS (Representative Task 1)

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
UPS System	Workstation	MGE	MGE	100462-00	2647
Workstation	SCSI DISK	Indy	SGI	0800690884A	2517
Howard IBM SP System	DRIVE 256MB	IBM	IBM		4318
Howard IBM SP System	MEMORY 256MB	IBM	IBM		4319
Howard IBM SP System	MEMORY 256MB	IBM	IBM		4320
Howard IBM SP System	MEMORY 256MB	IBM	IBM		4321
Howard IBM SP System	MEMORY 256MB	IBM	IBM		4322
AFS Server	CPQ Proliant 1600R CPQ Redundant	cpq-123738-01	Compaq	D022CSF1K104	4596
AFS Server	Power Supply	CPQ-107167	Compaq		4597
AFS Server	CPQ Proliant LCD Display Kingston 256MB	CPQ-264377-b23	Compaq		4598
AFS Server	Memory		Compaq		4603
Networking	Cisco Catalyst 4003 Switch Catalyst 4000 10/100	WS-C4003-S1 Dual AC Power Supply Option	Cisco	FOX03420023	3386
Networking	Catalyst 4000 Power Supply Catalyst 4000 10/100	32 port 2 gig module	Cisco		4547
Networking	Cisco 2620	gig module	Cisco		4551
Networking	Router		Cisco	JAB034988FN	3390
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4457
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4458
Networking	16 Port ASYNC Module	NM-16A	Cisco		4463

JACKSON STATE UNIVERSITY LOCATION

SYSTEM ID	MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
Firewall	Sun Monitor	X7103A	Sun	9728kC0341	2800
Firewall	Sun Ultra 5	A21-UFE1A	Sun	FW80805768	2797
JSU IBM SP System	JSU-IBM SP S	Ascend Rou	IBM	10044	2626
JSU IBM SP System	JSU-IBM SP S	cw 7012-39	IBM	97641	2627

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ATTACHMENT 4 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE AT AHPCRC PARTNER INSTITUTIONS (Representative Task 1)

Category	Item	Model/Spec	Manufacturer	Serial Number	Tag #
JSU IBM SP System	JSU-IBM SP S: Disk Drive	9.1 GB Ult	IBM	7ZBV53BD53	pending
JSU IBM SP System	JSU-IBM SP S: 1661-11000		3Com	23-G7932	pending
JSU IBM SP System	JSU-IBM SP S: 8222-008		IBM	N/A	pending
JSU IBM SP System	JSU-IBM SP S: 4-256 MB D		IBM	N/A	pending
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4122
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4123
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4124
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4125
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4126
JSU IBM SP System	JSU-IBM SP S: 128 MB 56		IBM	N/A	4127
JSU IBM SP System	JSU-IBM SP S: Monitor		IBM	N/A	4128
JSU IBM SP System	JSU-IBM SP S: Frame 1 90		IBM	02-90088	4129
JSU IBM SP System	JSU-IBM SP S: Frame 2 90		IBM	02-90088	2628
JSU IBM SP System	JSU-IBM SP S: 7033-600		IBM	13VV030	2624
JSU IBM SP System	JSU-IBM SP S: DLT 4700		Evolving S	CX81700995	2625
Networking	Ethernet Card		Cisco	07352847	pending
Networking	Ethernet Card		Cisco	07291732	pending
Networking	Router	4700-M	Cisco	47543060	2734
Networking	Serial Port		Cisco	07171056	2736
Networking	Super Stack II	10/100 Port	3Com	01017ZBV53BD:	2618
Networking	Switch Probe	WS-PB8FE	Cisco	63079662	2735
Networking	Switch-10/100	2926 Cataly	Cisco	65310052	3096
Networking	Terminal Serve 2509		Cisco	250431511	3276
Personal Computer	CPU and Monit	E-4200 450	Gateway	1001917	2619
Personal Computer	PC	2300 SL-La	Pentium	0009464603	2617
Personal Computer	PC	LPMINI-Tow	Gateway	9461297	pending
Personal Computer	PC	P266 Lapto	Gateway	00094459223	2883
Printer	Printer	4511 CPU	Textronic	tw10605	2631
Printer	Printer	Laser Jet 5	HP	JPKF153677	2623
Tape Drive System	Auto Loader	DLT 4700	Evolving S	CX81700995	2069
UPS System		72-160252-(	MGE	102702-01	4014
Visualization System	Animation Controller		Todd Com	N/A	2971
Visualization System	Betacam SP Recorder		BTS Broa	519	2662
Visualization System	Disk Signal Processor		Blumberg	10148	1502
Visualization System	Laser Videodisk Player		Blumberg	10151	1503
Visualization System	Monitor	JVC HR 19"	CineQuipt	9560444	1499
Visualization System	Vlan Videomedia Editor		Todd Com	10189	1500
Workstation	Workstation	Indigo cmnt	SGI	35004318	1672
Workstation	Workstation	Indigo cmnt	SGI	35259611	1771
Workstation	Workstation	Indigo cmnt	SGI	35259650	1668
Workstation	Workstation	Onyx cmnat	SGI	S32104	2326
Workstation	Workstation	Server 7012	IBM	1097641	2327
Workstation	Main Rack	SCSI Box 2	SGI	22008864	N/A
Workstation	Workstation	Indy	SGI	08006908451	2627
JSU IBM SP System	SCSI DISK DRIVE 256MB		IBM		2412
JSU IBM SP System	Memory		IBM		2529

SYSTEM ID	LOCATION MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
JSU IBM SP System	256MB Memory		IBM		
JSU IBM SP System	256MB Memory		IBM		
JSU IBM SP System	256MB Memory		IBM		
AFS File system	CPQ Proliant 1600R	cpq-123738-01	Compaq	D022CSF1K058	
AFS File system	CPQ Redundant Power Supply	CPQ-107167	Compaq		
AFS File system	CPQ Proliant LCD Display	CPQ-264377-b23	Compaq		
AFS File system	Kingston 256MB Memory		Compaq		
Networking	Cisco Catalyst 4003 Switch	WS-C4003-S1 Dual AC Power Supply	Cisco	FOX03400279	
Networking	Catalyst 4000 Power Supply	Option	Cisco		
Networking	Catalyst 4000 10/100	32 port 2 gig module	Cisco		
Networking	Cisco 2620 Router	gig module	Cisco	JAB034988FL	
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		
Networking	16 Port ASYNC Module	NM-16A	Cisco		

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SYSTEM ID	LOCATION MACHINE TYPE	MODEL NO.	VENDOR	SERIAL NO.	AHPCRC NO.
FAMU IBM SP System	Ascend Router	9077	IBM	02-10014	2563
FAMU IBM SP System	Control Workst	7012-397	IBM	10-96683	2568
FAMU IBM SP System	Media Convert Twister-10 (		IBM	A971008211	N/A
FAMU IBM SP System	Monitor	6555-773	IBM	66-B5806	2569
FAMU IBM SP System	RS/6000 SP	Frame 1	IBM	79566	2565
FAMU IBM SP System	RS/6000 SP	Frame 2	IBM	79566	2566
FAMU IBM SP System	SSA Disk Array	7033-600	IBM	57-55042	2591
FAMU IBM SP System	Tape Library	DLT 4000	IBM	CX63801883	103642
Firewall	Sun Monitor	X7103A	IntraNet	9728KC0125	2786
Firewall	Sun Ultra 5	A21-UFE1A	IntraNet	FW80805731	2782

Category	Item	Description	Manufacturer	Serial	Asset
Networking	Auto Loader	DLT	Cisco	CX8170032	3029
Networking	Ethernet Module		Cisco	04683919	2940
Networking	Ethernet Port Card		Cisco	10055966	4005
Networking	FDDI Module		Cisco	07367792	2942
Networking	Hub	TP4	3Com	7XRV036AAC	2655
Networking	Rack		AMCO	N/A	4010
Networking	Router	4700-M	Cisco	47541766	2938
Networking	Serial Port		Cisco	05817721	2941
Networking	Switch Probe	WS-PB8FE|	Cisco	63079663	2669
Networking	Switch-10/100	2926 Cataly|	Cisco	65311759	3102
Networking	Terminal Serve	2509	Cisco	250431512	2879
Workstation	Workstation	Indy	SGI	080069088858	2525
Personal Computer	Monitor		Gateway	N/A	2976
Personal Computer	PC	Pentium II C	Gateway	0009832489	2978
Personal Computer	PC		Gateway	0009817718	2974
Visualization System	HIPPI PCI	EC-340-SF	SGI	N/A	internal
Visualization System	Memory	128 M (upgr	SGI	N/A	3060
Visualization System	Memory	256 M (upgr	SGI	N/A	3061
Visualization System	Monitor	D-M20NC	SGI	7008248	pending
Visualization System	Tape Drive	P-S-DLT-D>	SGI	CX80700829	3062
Visualization System	Workstation	Octane/195	SGI	0800690BE101	3059
Visualization System	SNS Field Passthrough		SGI	N/A	3057
Visualization System	SNS Field Passthrough		SGI	N/A	3058
Networking	Comm Rack		AMCO		4615
AFS file server	CPQ Proliant 1600R CPQ	cpq-123738-01	Compaq		4607
AFS file server	CPQ Redundant Power Supply	CPQ-107167 CPQ-	Compaq		4608
AFS file server	CPQ Proliant LCD Display Kingston 256MB	264377-b23	Compaq		4609
AFS file server	Memory				4606
Networking	Cisco Catalyst 4003 Switch	WS-C4003-S1 Dual AC Power Supply	Cisco	FOX03400085	3384
Networking	Catalyst 4000 Power Supply	Option	Cisco		4548
Networking	Catalyst 4000 10/100	32 port 2 gig module	Cisco		4552
Networking	Cisco 2620 Router		Cisco	JAB034988G4	
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4459
Networking	8 Lead Octal Cable	cab-octal-sync	Cisco		4460

ATTACHMENT 4 - LIST OF HARDWARE, EQUIPMENT AND SOFTWARE AT AHPCRC PARTNER INSTITUTIONS (Representative Task 1)

Networking	16 Port ASYNC Module	NM-16A	Cisco	4464

ATTACHMENT 5
SUBCONTRACTING PLAN

(TO BE ADDED AT TIME OF CONTRACT AWARD.)

ATTACHMENT 6 TO SECTION J
REPRESENTATIVE TASK ORDER 1

OBJECTIVE: Provide a Core Site and Environment for an Infrastructure Base and Install and Integrate Presently Owned GFP as included on Attachment 2 in Section J

PERIOD OF PERFORMANCE: 10 Weeks from receipt of GFP

ANTICIPATED GOVERNMENT FUNDING: NONE

PRICING STRUCTURE: N/A

SCOPE OF WORK:

1.1 Install and Integrate HPC and Ancillary Systems provided as GFP and Prepare for Private T-1 Network Connections

1.1.1 The Contractor shall provide a Core HPC site for installation, integration (in preparation for operation) of the major HPC systems and ancillary equipment that will be initially provided as Government Furnished Property (GFP). The GFP to be provided is listed in Attachment 2 in Section J. The Contractor shall install and integrate this equipment, return it to operational condition, perform tests and diagnostics to assure its proper operation, to include all hardware, applications and administrative software.

1.1.2 The Government is responsible for dismantling, packing and moving the existing assets specified in Attachment 2 to the Contractor's core site.

1.1.3 Install and Integrate Communications and Networking Equipment Provided as GFP.

1.1.3.1 The Government will provide the DREN drop connection into the Contractor's core site facility. The Contractor shall install, integrate and return to operational condition all communications and network equipment provided as GFP that is necessary for the operation of the site in order to provide remote networked HPC computing services to the Cooperative Agreement scientists and DoD, DoD contractor and University scientists. The contractor shall network the core site systems in order to provide access to these systems through DREN, the Internet, and a T-1 private network. The Contractor shall prepare the Core Site to connect to a private T-1 network (as a minimum) interconnecting the HPC systems at the Core Site and all of the organizations participating under the AHPCRC cooperative agreement.

1.1.4 Install and Integrate Security Equipment And Environment

The Core Site shall perform as a Shared Resource or Support Center for the DoD HPC Modernization Program (HPCMP). In that capacity the Contractor shall set up the site to comply with all administrative and security requirements requested by the DoD High Performance Computing Modernization Office (HPCMO) and approved by the ARL COR. These security requirements are specified in Attachment 1. The specific requirements of the push-pull IE system is provided in the document *"Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide.* For information on the DoD HPCMP see www.hpcmo.hpc.mil.

DELIVERABLES: INTEGRATION REPORT (INITIAL INTEGRATION), and USER GUIDE as defined in Section F

ATTACHMENT 7 TO SECTION J
REPRESENTATIVE TASK ORDER 2

OBJECTIVE: Provide a Core Site and Environment for Infrastructure Base and Install and Integrate GFP as included on Attachment 3 in Section J

PERIOD OF PERFORMANCE: 8 Weeks from receipt of GFP

ANTICIPATED GOVERNMENT FUNDING: NONE

PRICING STRUCTURE: N/A

SCOPE OF WORK:

2.1 Install and Integrate HPC and Ancillary Systems provided as GFP.

2.1.1 The Contractor shall provide a Core HPC site for installation, integration (in preparation for operation) of the major HPC systems and ancillary equipment that will be initially provided as Government Furnished Property (GFP). The GFP to be provided is listed in Attachment 3 in Section J. The Contractor shall install and integrate this equipment, return it to operational condition, perform tests and diagnostics to assure its proper operation, to include all hardware, applications and administrative software.

2.1.2 The Government is responsible for dismantling, packing and move of the existing assets specified in Attachment 3, to the Contractor's core site.

2.1.3 Install and Integrate Communications and Networking Equipment Provided as GFP

2.1.3.1   The Government will provide the DREN drop connection into the Contractor's core site facility. The Contractor shall install, integrate and return to operational condition all communications and network equipment that is necessary for the operation of the Core Site in order to provide remote networked HPC computing services to the Cooperative Agreement scientists and DoD, DoD contractor and University scientists. The contractor shall network the Core Site's systems in order to provide access to these systems through DREN, the Internet, and a T1 private network. The Contractor shall prepare the Core Site to connect to a private T-1 network (as a minimum) interconnecting the HPC systems at the Core Site and the University of Minnesota under the AHPCRC Cooperative Agreement.

2.1.4 Install, Integrate And Operate Security Equipment And Environment

The Core Site shall perform as a Shared Resource or Support Center for the DoD HPC Modernization Program (HPCMP). In that capacity, the Contractor shall set up the site to comply with all administrative and security requirements requested by the DoD High Performance Computing Modernization Office (HPCMO) and approved by the ARL COR. These security requirements are specified in Attachment 1. The specific requirements of the push-pull IE system is provided in the document *"Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide.* For information on the DoD HPCMP see www.hpcmo.hpc.mil.

DELIVERABLES: INTEGRATION REPORT (INITIAL INTEGRATION), and USER GUIDE as defined in Section F.

ATTACHMENT 8 TO SECTION J
REPRESENTATIVE TASK ORDER 3

OBJECTIVE: Operate and Maintain the Core Site in Support of the Cooperative Agreement and High Performance Computing Modernization Program for the systems installed under Task 1

PERIOD OF PERFORMANCE: 12 Months (The contractor shall not begin performance under this Task until the Integration Report for the Integration Task has been approved by the Government, if such a task is issued.)

ANTICIPATED GOVERNMENT FUNDING: THIS AMOUNT IS NOT BEING DISCLOSED BY THE
                                                                       GOVERNMENT. OFFEROR'S ARE TO PROPOSE A
                                                                       PRICE IN SECTION B FOR THIS TASK.

PRICING STRUCTURE: FIRM-FIXED-PRICE (FFP)

SCOPE OF WORK:

3.1 Computing Environment

3.1.1 The Contractor shall operate and maintain a Core HPC Facility for equipment installed and integrated in Task 1.

The Contractor shall maintain, support and operate the Core HPC site (including HPC systems, ancillary systems, communications and security environment) established in compliance with Task 1 and whose equipment content is otherwise augmented modified, altered and changed as a result of Task 6. The Contractor shall provide T-1 connectivity (at a minimum) from the Core Site to all organizations involved in the AHPCRC Cooperative Agreement. The Contractor shall provide facilities, facilities management, systems integration services, systems administration, support equipment and supplies and services for Core Site systems as necessary to operate and maintain an HPC environment that enables the development and exploitation of the HPC applications of interest to Army and DoD with primary emphasis being on the research program of the Cooperative Agreement. Through this HPC environment, the Contractor shall work with the ARL, Army, DoD (and their Contractors) HPC user community to exploit the capabilities of HPC to advance the defense posture of the United States. From nominally 50% of the computing capability from the systems at the Core site, and through allocations specified by the COR, computing and ancillary services shall be provided to researchers working on and supporting the Cooperative Agreement.

In addition to supporting the Cooperative Agreement, the Contractor shall operate the Core Site/Major HPC assets (large multi-processors systems), located at the Contractors facility, as a Shared Resource or Support Center for the DoD as a whole (as part of the DoD HPCMP) providing nominally 50% of the computing capability to DoD researchers in Government, industry and academia, over the Defense Research and Engineering Network and other high speed networks. The accounts and allocations under this component are specified by the DoD HPC Modernization Office and include projects and investigators in DoD, their Contractors and DoD University based researchers. It should be noted that this component of the user base and allocations thereto, is separately managed by the HPCMO. The contractor's interface to this DoD operation is subject to the guidance, coordination and approval of the ARL COR. The Security Requirements for operating the Core site both in support of the Cooperative Agreement and as a Shared Resource Center for the HPCMP are specified in Attachment 1.

3.1.2 Operational requirements shall include, but not be limited to:

a. For each HPC system, the Contractor shall provide a scheduler that permits flexibility in prioritizing jobs so as to service the computing accounts in compliance with allocations, and priorities to be specified by the COR and the DoD HPCMO.

b. Procedures and rules for screening and accepting accounts shall be as follows: Applications for HPC resources from research project Principal Investigators (PIs) and co-Investigators (CIs) from AHPCRC partner institutions in the Cooperative Agreement shall be first approved by the designated Point of Contact (POC) of the affiliated institution with final approval provided by the COR. The COR is the final authority on issues related to these accounts. Applications for HPC resources emanating from the 50% allocation to the DoD HPCMP shall be approved by the sponsoring Service/Agency Account Approval Authority (S/AAA). The contractor shall assure that only applications approved by these two processes are granted HPC resources.

c. User accounts and allocation are initialized and terminated by the Contractor. This includes the processing of all appropriate security documentation, e.g., SF85P's.

d. The Contractor shall serve as the single POC for all system and user issues.

e. The Contractor shall implement and enforce security and information assurance measures as specified in Attachment 1.

f. The Contractor shall maintain statistics and other accountability information on usage by individual and project, systems uptime, and other information as requested by the ARL COR.

g. The Contractor shall facilitate both connection to the HPCMP Information Environment (IE) host site system and daily transference of status files on user allocations and utilization. The contractor is required to dedicate a machine (computer) [from the GFP] to provide the IE File Transfer function, install, integrate and implement software for the File Transfer function, maintain the machine, and assure its continual operation in providing the status data on account allocations and utilization. Toward this requirement the Contractor is being provided with the pamphlet titled: "HPCMP IE Non-Host-Site Deployment Guide". The General Requirements for the IE System are detailed in that pamphlet.

h. The Contractor shall coordinate a joint meeting with all the AHPCRC partners at a minimum of once per year. The purpose of this meeting will be to develop and assess operational procedures and other matters of joint interest to the cooperative agreement and the infrastructure support contract.

3.1.3 Support And Maintain Equipment at Partner Institutions: The Contractor shall maintain, support and assist in the operation of HPC and ancillary systems, (and their network connectivity) specified in Attachment 4 that are resident at the partner institutions of the AHPCRC. The list of these partner institutions having this equipment include the University of Minnesota, in Minneapolis, MN, Clark Atlanta University, Atlanta, GA,, Florida A&M University, Tallahassee, FL, Howard University, Washington D.C., and Jackson State University, Jackson, Mississippi.

3.2 Systems Support

The Contractor shall create and maintain a heterogeneous computing environment to facilitate researcher development of HPC applications for the solution of critical Army and DoD problems; and, to work with the research community to exploit the capabilities of HPC to advance the defense, and economic and technological security of the United States. The Contractor shall perform support tasks as follows:

3.2.1 The Contractor shall provide systems support for a network of HPC systems in a unified, heterogeneous computing environment composed of HPC systems, large storage systems, high speed networks, and advanced graphics and visualization laboratory, and workstations. Based on accounts, individual users and allocations approved by the Government, the Contractor shall set up user accounts and provide computer time and related services to these accounts according to priorities specified by the COR. The Contractor shall implement and oversee the operation of procedures that provide computing services to these accounts in a manner that most effectively utilizes the full computing capacity of the resources.

3.2.1.1 The Contractor shall provide operations and networking support for the systems provided as GFP and their suite of software.

3.2.1.2 Archival System: The computer center components owned by the Government do not include an archival storage system. The Government currently has approximately 50 terabytes of applications data. The Contractor is required to meet the Government's archival needs for approximately 50 terabytes of data. The system currently holding the Army and DoD archival data is a StorageTek(Redwood) Model SD-3. The tapes are 50GB/cartridge (uncompressed, typical compression is 1.5-2:1. The Army has 1000 cartridges yielding approximately 50 Terabytes of archive storage.

3.2.1.3 The Contractor shall provide support for the major system resources as follows:

3.2.1.3.1 The Contractor shall install new application and systems software and software updates as required by either user requirements or vendors. The Contractor shall provide centralized software support and management for all Government provided software operational at the partner institutions of the cooperative agreement This will include centralized procurement and licensing, installation and testing, security testing, employment of standardized installations, maintenance and debugging, security patches, firewalls, routers and switches, root access policies, and strict configuration management. The Contractor shall provide a network based software/hardware system for monitoring the major systems and network components of the core site and partner institutions.

3.2.1.3.2 The Contractor shall troubleshoot system hardware and software failures. As necessary, the Contractor shall run diagnostics, develop system utilities for testing various components of the system working to fix bugs and to increase system efficiency.

3.2.1.3.3 The Contractor shall provide maintenance and support, perform diagnostics and trouble-shooting as needed so as to maintain continuous service from the communications and network equipment included under this Task Order.

3.2.1.3.4 The Contractor shall provide feedback to vendor system designers regarding recommended hardware and software modifications and design changes for inclusion in future releases of the system hardware and software.

3.2.1.3.5 The Contractor shall perform other duties, such as system backups, generating system usage and operations and maintenance reports, running system diagnostics and provide for standard maintenance as available from systems vendors or third parties. The Contractor shall facilitate both connection to the HPCMP Information Environment (IE) host site system and the transference of status files to include a daily accounting of the allocation and utilization to date for each of the accounts on the various HPC systems at the Center. The contractor shall comply with the specific requirements of the push-pull IE system is provided in the document *"Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide.*

3.2.1.3.6 The Contractor shall operate the major AHPCRC HPC systems acquired under this contract and located at the contractor's facilities, on a twenty-four hours a day, seven days a week basis subject to downtime allowance for preventive maintenance and systems upgrades. An HPC system is defined as the computer and all directly connected peripherals. If more than 10% of the CPU's of an HPC system are unavailable for processing or if any user cannot access their files from a file system directly attached to the HPC system then the HPC system is unavailable for operational use and is considered "down". If users files are stored on a fileserver not directly attached to an HPC system and the user cannot access their files on the fileserver then, the fileserver is unavailable for operational use and is considered "down". System downtime is computed on a system basis. The Contractor is responsible for maintaining a system log in which they shall record the times when the system is available for use, the times the systems are unavailable for use and the reason the system is unavailable. The system log shall be provided to the Government COR or their authorized representative on a monthly basis with the submission of the invoice for the monthly services. The COR shall review the log and make the determination as to the amount of downtime incurred on all systems. Preventive maintenance shall be performed according to the manufacturers specifications at a time mutually agreeable to the COR and Contractor. All system upgrades, to include the upgrade schedule, shall be

agreed to by the Government COR. The Contractor shall provide on-call maintenance for the major HPC systems located at the Contractor's facilities eight hours per workday (Monday through Friday, exclusive of holidays) with four hour or less response time within the time zone where the system is located. The Contractor shall maintain existing systems at an effectiveness level of 95%.

If the effectiveness level drops below 95% the Contractor shall grant the Government a maintenance credit as described in Table C. The credit shall be calculated as a percentage (from Table C) of the prorated monthly maintenance cost to be billed to the government for the particular system. The credit shall be included in the monthly invoice for the month associated with the period of performance.

The effectiveness level(EL) is defined as;

EL = Operational Use Time / Scheduled Use Time

      Operational Use Time: [Scheduled Use Time - Downtime]

      Downtime: Time during which Contractor maintained equipment is not available for operational use.

      Scheduled Use Time: Time during which Contractor maintained equipment is available for use.

TABLE C Maintenance Credits for Availability	
Equipment Availability Rate	Maintenance Credit
95-100%	0
94%-92%	5%
91-90%	10%
89-88%	15%
87-86%	20%
85-84%	25%
83-82%	30%
81-80%	35%
79-78%	40%
77-76%	45%
75-74%	50%
73-72%	65%
71-70%	70%
0-69%	0%

New systems shall not be subject to this condition until they have been operational for 12 months or the expiration time of the warranty acquired with the system acquisition.

The Contractor shall operate the major HPC systems acquired under the auspices of this contract located at Clark Atlanta, Florida A&M, Howard and Jackson State Universities, identified in Attachment 4, on a scheduled twenty-four hours a day, seven days a week basis subject to periods of preventive maintenance and systems upgrade. The time for preventive maintenance and system upgrades shall be mutually agreed to by the COR and the Contractor. The Contractor shall provide for maintenance for the AHPCRC IBM SP systems located at the Clark Atlanta, Florida A&M, Howard and Jackson State University sites and the Cray SV1 at Jackson State and/or any additional or replacement systems that may be put in place during the contract period. The systems at the above mentioned locations shall not be subject to the uptime requirements imposed upon the systems located at the Core Site.

3.2.1.3.7 The Contractor shall provide workspace and computer access at the Core site facility for up to two personnel which could include guest researchers, visitors or the COR for a period not to exceed 90 consecutive days.

3.3 User Support, Training, Help line And Documentation

3.3.1 The Contractor shall provide user support, consultation, training, help line and documentation services pertaining to the basic operation of the HPC resources. The Contractor shall provide consulting support to local and remote users of the HPC systems pertaining to the basic operation of the HPC resources.

3.3.2 The Contractor shall maintain an HTTP or equivalent server on the World Wide Web. The server shall contain descriptions of AHPCRC Cooperative Agreement activities and activities and services related to this Infrastructure contract. The Director of the AHPCRC from the University of Minnesota shall be responsible for determining the content associated with the Cooperative Agreement in coordination with the COR. The contractor shall be responsible for the content associated with activities and services under its contract tasks, in coordination with the COR. The content, style, and material posted on the WEB should be approved by the COR. The information content shall include items such as preprint abstracts, still images and animation samples; training and seminar announcements and schedules; a repository of publicly available software and tools developed and application forms for access to HPC resources under this contract. The Contractor shall assist in making available and providing to the user community, on an HTTP or equivalent server, the following information:

- AHPCRC Overview

- Research Program

- Overview of HPC Resources

- Equipment Configuration

- Available Software

- Schedule of Upcoming Training and Symposia

- Abstracts of HPC use reports

- JPEG and MPEG files showing pictures and animations of results of HPC use activities.

3.3.3 User Guide

The Contractor shall provide an on-line User Guide for the HPC systems supported under this contract that includes an introduction to the facility and systems and the procedures required for users to access the Core Site systems. The Contractor shall inform users about system updates and schedules via on-line news items in the form of a daily message posted to the user's terminal at login time. The Contractor shall be provided with a copy of the existing User Guide as Government Furnished Information (GFI.)

3.4 Consultation

The Contractor shall maintain a telephone help line that is staffed twenty-four hours a day, seven days a week. During the period 0800 – 1700 (local time) Monday - Friday advanced support on the use of the systems, hardware and software shall be available. At all other times the helpline shall be staffed by operations personnel, whose primary function is the operation of the computer equipment and are capable of answering elementary questions concerning the status and use of the computer systems.

3.5 Communications Systems

The Contractor shall support the GFP network equipment (e.g., routers and switches) servicing the partner institutions of the cooperative agreement. The Contractor shall support and maintain the private T-1 network.

The Contractor shall provide network services to meet the following requirements including use of all circuits internal to the operation of the HPC systems, including access to and from the-following:
- INTERNET
- Defense Research and Engineering Network
- T-1 Network
- User File System

The Contractor shall provide a user file system with the following attributes:
a. User shall be able to access their home directory from all HPC systems (personal computers, workstations, and HPC systems (except the T3-1200E)
b. The user file system shall incorporate access control lists (ACL's), over and above the standard Unix file permission mechanisms, so that file access may be monitored by systems personnel.
c. The user file system shall be integrated with Kerberos.
d. Users shall have 50 Terabytes of archival storage available to them

DELIVERABLES: OPERATING AND MAINTENANCE STATUS REPORT, SYSTEM AND USER UTILIZATION REPORT, FUNDING REPORT, AND TASK FINAL REPORT as defined in Section F.

ATTACHMENT 9 TO SECTION J
REPRESENTATIVE TASK ORDER 4

OBJECTIVE: Operate and Maintain the Core Site in Support of the Cooperative Agreement and High Performance Computing Modernization Program for the systems installed under Task 2

PERIOD OF PERFORMANCE: 12 Months (The contractor shall not begin performance under this Task until the Integration Report for the Integration Task has been approved by the Government, if such a task is issued.)

ANTICIPATED GOVERNMENT FUNDING: THIS AMOUNT IS NOT BEING DISCLOSED BY THE GOVERNMENT. OFFEROR'S ARE TO PROPOSE A PRICE IN SECTION B FOR THIS TASK.

PRICING STRUCTURE: FIRM-FIXED-PRICE (FFP)

SCOPE OF WORK:

4.1 The Contractor shall operate and maintain a Core HPC Facility for Equipment Installed and Integrated in Task 2.

The Contractor shall maintain, support and operate the Core HPC site (including HPC systems, ancillary systems, communications and security environment) established in compliance with Task 2 and whose equipment content is otherwise augmented modified, altered and changed as a result of Task 6. The Contractor shall provide T-1 connectivity (at a minimum) from the Core Site to the University of Minnesota performing under the AHPCRC Cooperative Agreement. The Contractor shall provide facilities, facilities management, systems integration services, systems administration, support equipment and supplies and services for HPC systems as necessary to operate and maintain an HPC environment that enables the development and exploitation of the HPC applications of interest to Army and DoD with primary emphasis being on the research program of the Cooperative Agreement. Through this HPC environment, the Contractor shall work with the ARL, Army, DoD (and their Contractors) HPC user community to exploit the capabilities of HPC to advance the defense posture of the United States. From nominally 50% of the computing capability from the systems at the Core site, and through allocations specified by the COR,computing and ancillary services shall be provided to researchers working on and supporting the Cooperative Agreement.

4.2 In addition to supporting the Cooperative Agreement, the Contractor shall operate the Core Site/Major HPC assets (large multi-processors systems), located at the Contractors facility, as a Shared Resource or Support Center for the DoD as a whole (as part of the DoD HPCMP) providing nominally 50% of the Center's computing capability to DoD researchers in Government, industry and academia, over the Defense Research and Engineering Network and other high speed networks. The accounts and allocations under this component are specified by the DoD HPC Modernization Office and include projects and investigators in DoD, their Contractors and DoD University based researchers. It should be noted that this component of the user base and allocations thereto, is separately managed by the HPCMO. The Contractor interface to this DoD operation is subject to the guidance, coordination and approval of the ARL COR. The Security Requirements for operating the Core site both in support of the Cooperative Agreement and as a Shared Resource Center for the HPCMP are specified in Attachment 1.

4.3 Operational requirements of the Center shall include, but not be limited to:

> a.   For each HPC system, provide a scheduler that permits flexibility in prioritizing jobs so as to service the computing accounts in compliance with allocations, and priorities to be specified by the COR and the DoD HPCMO.
> b. Procedures and rules for screening and accepting accounts shall be as follows: Applications for HPC resources from research project Principal Investigators (PIs) and co-Investigators (CIs) from AHPCRC partner institutions in the Cooperative Agreement shall be first approved by the

designated Point of Contact (POC) of the affiliated institution with final approval provided by the COR. The COR is the final authority on issues related to these accounts. Applications for HPC resources emanating from the 50% allocation to the DoD HPCMP shall be approved by the sponsoring Service/Agency Account Approval Authority (S/AAA). The contractor shall assure that only applications approved by these two processes are granted HPC resources.

c. User account and allocation are initialized and terminated by the Contractor. This includes the processing of all appropriate security documentation, e.g., SF85P's

d. The Contractor serves as the single POC for all system and user issues

e. Implement and enforce security and information assurance measures as specified in Attachment 1.

f. Maintain statistics and other accountability information on usage by individual and project, systems uptime, and other information as requested by the ARL COR. Provide this information to the HPCMO.

g. Facilitate both connection to the HPCMP Information Environment (IE) host site system and daily transference of status files on user allocations and utilization. The contractor is required to dedicate a machine (computer) [from the GFP] to provide the IE File Transfer function, install, integrate and implement software for the File Transfer function, maintain the machine, and assure its continual operation in providing the status data on account allocations and utilization. Toward this requirement the Contractors are being provided with the pamphlet titled: "HPCMP IE Non-Host-Site Deployment Guide". The General Requirements for the IE System are detailed in that pamphlet.

h. Contractor shall develop a coordinating mechanism including a meeting with the AHPCRC and COR at a minimum of once per year. Purpose of the coordination mechanism and meetings will be to develop and assess operational procedures and other matters of joint interest to the cooperative agreement and the infrastructure support arrangements.

4.4 Systems Support

The Contractor shall create and maintain a heterogeneous computing environment to facilitate researcher development of HPC applications for the solution of critical Army and DoD problems; and, to work with the research community to exploit the capabilities of HPC to advance the defense, and economic and technological security of the United States. The Contractor shall perform support tasks as follows:

4.4.1 The Contractor shall provide systems support for a network of HPC systems in a unified, heterogeneous computing environment composed of the HPC systems and ancillary systems installed and integrated in Task 2, large storage systems, high speed networks, and advanced graphics and visualization laboratory, and workstations. Based on accounts, individual users and allocations approved by the Government, the Contractor will set up user accounts and provide computer time and related services to these accounts according to priorities specified by the COR. The Contractor will implement and oversee the operation of procedures that provide computing services to these accounts in a manner that most effectively utilizes the full computing capacity of the resources.

4.4.1.1 The Contractor shall provide operations and networking support for the systems installed and integrated in Task 2 and their suite of software.

4.4.1.2 The Contractor shall provide support for the major HPC resources as follows:

4.2.1.2.1 The Contractor shall install new application and systems software and software updates as required by either user requirements or vendors. The Contractor shall provide centralized software support and management for all Government provided software operational at the Core Site and the University of Minnesota Cooperative Agreement researchers. This will include centralized procurement and licensing, installation and testing, security testing, employment of standardized installations, maintenance and debugging, security patches, firewalls, routers and switches, root access policies, and strict configuration management.

4.2.1.2.2 The Contractor shall troubleshoot system hardware and software failures. As necessary the Contractor

shall run diagnostics, develop system utilities for testing various components of the system working to fix bugs and to increase system efficiency.

4.2.1.2.3 The Contractor shall provide maintenance and support, perform diagnostics and trouble-shooting as needed so as to maintain continuous service from the communications and network equipment under this Task Order.

4.2.1.2.4 The Contractor shall perform other duties, such as system backups, generating system usage and operations and maintenance reports, running system diagnostics and provide for standard maintenance as available from systems vendors or third parties. The Contractor shall facilitate both connection to the HPCMP Information Environment (IE) host site system and the transference of status files to include a daily accounting of the allocation and utilization to date for each of the accounts on the various HPC systems at the Center. Specific requirements of the push-pull IE system is provided in the document
"Department of Defense High Performance Computing Modernization Program-Information Environment (HPCMP-IE)_ - Title: HPCMP IE Non-Host –Site Deployment Guide. The contractor is required to follow and adhere to the procedures and requirements specified in this document.

4.4.1.2.5 The Contractor shall operate and maintain the major HPC systems acquired under this contract and located at the Contractor's facilities on a schedule and with operational and maintenance policies that are designed to greatly reduce the operational costs. There is no fixed requirement for up time, however the contractor is required to man the site eight hours per day and five days per week.

DELIVERABLES: OPERATING AND MAINTENANCE STATUS REPORT, SYSTEM AND USER UTILIZATION REPORT, FUNDING REPORT, AND TASK FINAL REPORT as defined in Section F.

ATTACHMENT 10 TO SECTION J
REPRESENTATIVE TASK ORDER 5

OBJECTIVE: Staff Scientist Program (SSP) and Research Support Activities

PERIOD OF PERFORMANCE: 12 months

ANTICIPATED GOVERNMENT FUNDING: $4M

PRICING STRUCTURE: COST-PLUS-FIXED-FEE (CPFF)

SCOPE OF WORK:

5.1 The Contractor shall hire up to ten staff scientists. Assignment locations shall be determined by the COR. For planning purposes the assignment locations, technical disciplines and number per location/technical discipline will be as follows:

        a.   Army Research Laboratory, Aberdeen Proving Ground, MD (2)
        b.   Army Research Laboratory, Adelphi, MD (2)
        c.   Tank Automotive Research Development Engineering Center, Warren, Michigan (2)
        d.   Engineering Research Development Center, Vicksburg, Mississippi (2)
        e.   U.S. Army Medical Institute of Infectious Diseases, Fort Detrick, MD (1)
        f.   U.S. Army Concept Analysis Agency, Ft. Belvoir, VA (1)

Technical disciplines: Projectile-target interaction (2), Signature Modeling (2) , Chem-bio and atmospheric/environmental sciences (2) , Virtual Computing Environment(1) , and Enabling technologies and computational algorithms (3).

The Contractor shall assist in placing staff scientists at the Army assignment locations specified by the COR. The staff scientists shall conduct research, training classes and tutorials in their respective computational technology areas of expertise, closely working with the cooperative agreement research program. In addition to computational research in their assigned disciplinary area the staff scientists shall assist in a support capacity, such as graphics, systems and application programming.

5.2 The Contractor shall provide personnel at the above initial staffing level with changes in quantity, skill mix, preferred disciplines being allowed subject to mutual agreement by the Contractor and the Army- with the COR having final approval authority. The staff scientists shall reside predominantly at Army sites based upon the Government's stated needs and locations. Residence at other than these specified locations is subject to mutual agreement between the Contractor and the Government, with the COR having final approval authority. The staff scientists, regardless of their primary residence, will occasionally be required to travel to other designated sites for short to extended periods of time (either to another Army/DoD lab, a University or a DoD contract site) based upon mutual agreement between the Contractor and the COR.

Staff scientists shall either have PhD's in appropriate disciplines or subject to approval by the COR, a skill level commensurate with a PhD. The composition of the staff scientist's skill levels and technical disciplines will be such as to complement the research content in the Research Cooperative Agreement. Staff scientists will be assigned research, development and support tasks associated with their portfolio specialty and will work on the portfolio project team which consists of University Cooperative Agreement researchers as well as Army researchers.

If the need arises, Contractor shall provide SSP staffing at additional Army sites as mutually agreed to by the Contractor and the COR. Staff scientists shall be U. S. citizens, shall be capable of acquiring secret clearances, shall be approved by the COR and unless otherwise approved by the COR shall be resident at the selected Army sites.

5.3 In support of the staff scientists assigned to Army locations, the Government shall furnish, on an as-required basis, at the Army sites, at no cost to the Contractor, base support (including workstations and workstation maintenance, floor space, desks, telephone equipment and access, janitorial services and office supplies), supplies for interactive terminals, access to the on-site Army supercomputer systems, and access to communication networks and other supercomputer systems available under the DoD HPC Modernization Program.

5.4 The staff scientists shall assist researchers from the Cooperative Agreement and other affiliated Army researchers to increase the number and quality of software applications available for Army and DoD use on scalable HPC systems.

5.4.1   The composition of the research support staff skill levels and technical disciplines will be such as to complement the research content in the research cooperative agreement, staff scientist program, and the government requirements. The number of research staff can vary depending on the requirements and available funding. The staff scientists and research support staff shall work with Army and DoD researchers and with industrial collaborators to implement new software applications for high performance systems particularly within the following areas: Projectile-target interaction, Signature Modeling, Chem-bio and atmospheric sciences, Virtual Computing Environment, and Enabling technologies and computational algorithms. Additional areas include scientific visualization, knowledge management and other enabling technology skills.

5.4.2   The staff scientists and research support staff, working with the Army and university researchers, shallidentify needed third party applications suitable for porting to the major HPC systems. The staff scientists, working with the Army and university researchers, shall port these applications to the major HPC systems. The staff scientists shall work with the software developers to implement the application. The staff scientists shall interface the third party software with graphics software, utilities and other software already available on the system and provide user training. The objective of this process is for the Contractor to gain the added capacity or added performance possible on the major HPC systems.

5.4.3   The staff scientists and research support staff shall assist in the implementation of existing AHPCRC developed applications on new architectures and shall evaluate implementations that appear to exhibit superior performance using the porting approach or simplifying the porting process.

5.4.4   The staff scientists and research support staff shall integrate new computational methods and techniques into new production software packages and shall make the software available to the Army and the DOD. The Contractor shall disseminate this software primarily through: (1) posting to the WWW; (2) transfer of the software to third party vendors for incorporation into supported, third-party, commercial software; or (3) one-on-one transfer of quasi-production software to Army and DOD HPC users.

5.5 The Contractor shall perform research support activities to assist in exploiting the research results under the Cooperative Agreement.

5.5.1 The Contractor shall collaborate, to the extent feasible, with other DoD HPC Centers to develop utilities to extend the concepts and tools developed. The Contractor shall develop a coordinated set of utilities to meet the network mass storage and visualization needs of the Army and university researchers, particularly on scalable parallel processors such as the IBM SP and the CRAY T3E-1200E.

5.5.2 The Contractor shall provide support services augmenting the staff scientist efforts described above, to increase the number of software applications available for Army and DoD use on scalable HPC systems.

5.5.3 The Contractor shall answer questions of users of the HPC computing resources about the major HPC systems hardware and software, evaluating algorithms for applicability to a user's project, advanced scientific visualization, and to help a user in code development and debugging by telephone or email or at DOD User Group Meetings.

5.6 The contractor shall comply with the DD Form 254 attached to this solicitation.

DELIVERABLES: FUNDING REPORT, SEMI-ANNUAL PLAN (STAFF SCIENTIST PROGRAM AND RESEARCH SUPPORT STAFF), **SEMI-ANNUAL PROGRESS REPORT** (STAFF SCIENTIST PROGRAM AND RESEARCH SUPPORT STAFF), SOFTWARE, AND TASK FINAL REPORT as defined in Section F.

ATTACHMENT 11 TO SECTION J
REPRESENTATIVE TASK ORDER 6

OBJECTIVE: Acquisition, Installation and Integration of Novel HPC Resources

PERIOD OF PERFORMANCE: 18 months

ANTICIPATED GOVERNMENT FUNDING: $16.5M

PRICING STRUCTURE: COST-PLUS-FIXED-FEE (CPFF)

SCOPE OF WORK:

The Contractor shall procure, install and integrate new/novel HPC resources. The Government currently has approximately $16.5M under the DoD FY02 Procurement appropriation for the express purpose of near term upgrading of the capability of the AHPCRC Core site. The HPC systems procured for this appropriation are mandated by congressional language to be "high memory bandwidth/low latency HPC systems". *Reference: House of Representatives Report 107-350 MAKING APPROPRIATIONS FOR THE DEPARTMENT OF DEFENSE FOR THE FISCAL YEAR ENDING SEPTEMBER 30, 2002 AND FOR OTHER PURPOSES, Conference Report to Accompany H. R. 3338, December 19, 2001, page 145, Major Equipment OSD.* The contractor shall identify the HPC resources to be acquired, acquire the HPC resources, install the HPC resources and integrate them into the computing environment at the Core Site. The contractor shall perform diagnostic testing to ensure that the HPC resources are operating appropriately. The Contractor shall structure the acquisition such that system integration, first year maintenance costs and one time software license fees are absorbed into the overall acquisition costs and thus appear only in this representative task.

DELIVERABLES: INTEGRATION REPORT (NEW HPC RESOURCES)

ATTACHMENT 12 TO SECTION J
REPRESENTATIVE TASK ORDER 7

OBJECTIVE: Conduct Technology Exchange Programs, Outreach and Educational Programs, Publications, Seminars and Workshops

PERIOD OF PERFORMANCE: 12 months

ANTICIPATED GOVERNMENT FUNDING: $500,000.00

PRICING STRUCTURE: COST-PLUS-FIXED-FEE (CPFF)

SCOPE OF WORK:

7.1 WORKSHOPS AND SEMINARS

The contractor shall support the research co-operative agreement by acting as facilitator and coordinator in sponsoring workshops, seminars and conferences. The contractor responsibilities will include identification, scheduling and resourcing of conferencing facilities, dissemination of announcements, and preparation of pre and post conference technical material such as conference proceedings. The subject matter for these workshops, seminars and conferences shall be determined by the COR and the AHPCRC in conjunction with the contractor. The contractor shall co-sponsor other workshops and seminars with affiliated organizations, as may be designated by the COR and subject to availability of funding.

The Contractor shall publish an annual brochure reporting on the accomplishments of users of the AHPCRC systems and in particular the work being performed as part of the AHPCRC Cooperative Agreement for Research and the work accomplished under the portfolio projects.

7.2 EDUCATIONAL PROGRAMS and OUTREACH

7.2.1 Educational Programs: The contractor will team with   the AHPCRC research cooperative agreement and the COR in planning and conducting:

a. Introductory HPC Summer Institutes: These introductory HPC summer institutes, typically two weeks, will be conducted in coordination with and at the HBCU sites with particular emphasis on serving High School students local to the partner HBCU Universities. The contractor will coordinate research projects provided by the cooperative agreement university partners, provide material, exercises, and teaching assistants in topics such as scientific programming in C, Fortran, Unix and HTML. Annually two such institutes will be conducted, one at each of two HBCU's, with an alternating schedule so that at least one such institute is held at each HBCU within a two year period.

b. An Annual Advanced Summer Institute in HPC: (typically a two to ten week workshop University undergraduates). The cooperative agreement university partners will provide research projects, material, exercises, and teaching assistants in topics such as serial programming in Fortran and C, Parallel programming for shared and distributed memories, Visualization and HTML and Java. The Contractor shall provide for travel for up to twenty students to attend, providing stipends for all student attendees and additionally providing for room and board for the non-commuting students. This institute will be hosted at a facility in Minneapolis, MN so as to be proximate to the AHPCRC Cooperative Agreement offices, equipment and staff at the University of Minnesota- the site to be designated mutually by the COR and the AHPCRC in conjunction with the contractor. The contractor will coordinate Seminars in HPC applications working jointly

with the COR and the AHPCRC to select and invite presenters typically Army/DOD researchers, AHPCRC researchers, Staff Scientists under this contract, and HPC researchers from Industry. A list of projects and seminar invitees will be provided for the COR's approval.

7.3 TECHNOLOGY EXCHANGE PROGRAMS AND PUBLICATIONS

7.3.1   Under the direction of the Army and with the concurrence of the COR, the Contractor shall support and foster collaborative programs with the defense industry, in particular, with the following objectives:

7.3.1.1 To increase technology exchange between academia, industry and Government laboratories and thus increase the economic competitiveness of the country as a whole.

7.3.1.2   To identify transferable technology and defense industrial problems of interest. The contractor shall submit Technology Transition Reports as delineated in Section F.

7.3.1.3 To expedite the movement of promising HPC technology and methodologies into the defense industry.

7.3.2   The contractor shall publish the AHPCRC Bulletin as delineated in Section F. The bulletin shall be issued four times a year and must reflect i.) the research results of all partners in the cooperative agreement ii.) significant accomplishments of the infrastructure support contract to include HPC capability and services rendered   iii.) research, development and support successes of the staff scientists iv.) significant activities associated with workshops, seminars, education, outreach and publications

DELIVERABLES: FUNDING   REPORT,   WORKSHOP   PROCEEDINGS,   SUMMER   INSTITUTE PROCEEDINGS, AHPCRC BULLETIN, TECHNOLOGY TRANSITION REPORT and TASK FINAL REPORT as defined in Section F.

ATTACHMENT 13
Past Performance Survey

PAST PERFORMANCE SURVEY GUIDANCE
(FOR THE ORGANIZATION COMPLETING THE SURVEY FOR THE OFFEROR)

1. The US Army Robert Morris Acquisition Center, Research Triangle Park Division (RMAC-RTP) is currently conducting a competitive solicitation DAAD19-02-R-0008. This solicitation is for infrastructure support in connection with the Army High Performance Computing Research Center (AHPCRC.) The Infrastructure Support efforts include the acquisition of novel high performance computing (HPC) resources; operating, maintaining and supporting such HPC resources; and providing staff scientists to assist in research and technology transition activities. We have requested that each offeror provide our office information about its past performance on similar contracts for use as part of this evaluation. We have requested that each offeror forward the attached survey to organizations for whom it has provided similar work.

2. Your assessment of past performance is extremely valuable to our evaluation process. Part A of the survey is to be completed by the offeror, and should have been completed by the person who has sent you this survey. Part B of the survey is to be completed by your organization.

3. The survey should be completed by the individual most knowledgeable of the Contractor's day-to-day. However, that individual is encouraged to supplement his/her own knowledge of the Contractor's performance with the judgement of others in their organization, as applicable.

4. Due to time constraints, this survey is to be completed and submitted to the RMAC-RTP by the due date for proposals in connection with this solicitation. Since the offeror is responsible to ensure timely submission of this survey, it is requested that you provide the offeror notification when you have transmitted this survey to the RMAC-RTP.

5. Completed surveys may be submitted via fax, email or US mail. It is imperative that the customer organization completing Part B of this questionnaire return the questionnaire no later than the proposal due date to the US Army Robert Morris Acquisition Center, Attn: Mr. Richard Burkes/AMSSB-ACR, 4300 S. Miami Blvd., Durham, NC 27703; Phone 919-549-4295; Fax 919-549-4388; or email burkesrc@arl.aro.army.mil.

6. Handwritten responses are sufficient. Please assure the handwriting is legible. Please provide explanatory narratives for as many responses as possible. These narratives need not be lengthy, just detailed. If more space is needed, please attach additional pages.

7. As this survey relates to an ongoing source selection for the US Army Robert Morris Acquisition Center, request that all information provided within the survey be safeguarded against unauthorized disclosure.

8. Any questions in connection with this survey may be directed to the Contract Specialist identified in Paragraph 5 above.

PAST PERFORMANCE SURVEY

PART A (To be completed by the offeror)

Organization Name:
Contract Number:
Type of Contract:
Contract Period of Performance:
Total Dollar Amount of Contract:
Brief Description of Contract Effort:

Customer Organization
 Name of Business POC:
 Address:
 Telephone Number:
 Fax Number:
 Email Address:

Customer Organization
 Name of Technical POC:
 Address:
 Telephone Number:
 Fax Number:
 Email Address:

DUE DATE FOR SUBMISSION:

PART B (To be completed by the customer organization)

1. RATING STANDARDS

   EXCELLENT: Results exceeded expectations; consistently met all contract requirements and exceeded some; technical quality was excellent; contractor was responsive and timely; control of subcontractors resulted in superior performance

   GOOD: Results met all expectations; technical quality was good; timeliness and responsiveness was above average; exhibited above average control of subcontractors that resulted in good performance

   ADEQUATE: In most cases, expectations were met; quality of technical work was acceptable; timeliness and responsiveness was acceptable; control of subcontractors resulted in the expected outcome.

   INADEQUATE: Expectations not met; contractor had problems meeting contract requirements; quality of technical work was poor; contractor was not responsive or timely; poor control over subcontractors led to an inferior result.

   NOT APPLICABLE: Does not apply to this contract or contractor

2. EVALUATION – Please respond to the following questions regarding the contractor's past performance. If possible, please provide a short explanatory narrative for each element.

    a.   Rate contractor's ability to hire and keep qualified, trained personnel.
        Excellent [ ]   Good [ ]   Adequate [ ]   Inadequate   [ ]   Not Applicable   [ ]

    b.   Rate contractor's management ability and the reporting of both technical and administrative data (periodic technical and financial reports, etc.) in terms of completeness, accuracy, and timeliness.
        Excellent [ ]   Good [ ]   Adequate [ ]   Inadequate   [ ]   Not Applicable   [ ]

    c.   Rate contractor's responsiveness, interface and working relationship with the Government COR.
        Excellent [ ]   Good [ ]   Adequate [ ]   Inadequate   [ ]   Not Applicable   [ ]

    d.   Rate contractor's ability to adhere to original cost estimates and bill in a timely manner.
        Excellent [ ]   Good [ ]   Adequate [ ]   Inadequate   [ ]   Not Applicable   [ ]

    e.   Rate the quality of the contractor's overall technical performance and compliance with the contract terms and conditions.
        Excellent [ ]   Good [ ]   Adequate [ ]   Inadequate   [ ]   Not Applicable   [ ]

3.ADDITIONAL COMMENTS _____

_____

_____

_____

_____

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ATTACHMENT 14
PROPOSAL COVER SHEET
(to be completed and submitted with proposal)

SOLICITATION NO: DAAD19-02-R-0008

NAME AND ADDRESS OF ORGANIZATION:

TECHNICAL POC FOR ORGANIZATION:

PHONE, FAX AND EMAIL FOR TECHNICAL POC:

BUSINESS POC FOR ORGANIZATION:

PHONE, FAX AND EMAIL FOR BUSINESS POC:

POC FOR ORGANIZATION CONCERNING COST PROPOSAL:

PHONE, FAX AND EMAIL FOR COST PROPOSAL POC:

LISTING OF THE NAMES OF ALL ORGANIZATIONS INCLUDED IN THE PROPOSAL (i.e. the offeror and proposed subcontractors):

SIGNATURE OF PERSON AUTHORIZED TO SUBMIT THE PROPOSAL AND BIND THE ORGANIZATION:

TYPED NAME AND TITLE OF PERSON SIGNING THE PROPOSAL:

DATE THE PROPOSAL IS SIGNED:

HPCMP

High Performance Computing Modernization Program

Department of Defense

High Performance Computing Modernization Program - Information Environment (HPCMP IE)

Title: HPCMP IE Non-Host-Site Deployment Guide
Version: 2.3

Date: August 15, 2002

Contract Number: GS04T01BFC0062

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Revision History

Revision	Date	Updated by	Comments
1.0	11/26/01	Todd Prissel (contractor "HPTi)	Initial External Release
1.1	12/5/01	Todd Prissel (contractor "HPTi)	Incorporated comments; Initial release to non-host-site
1.2	12/06/01	Todd Prissel (contractor "HPTi)	Changed NHS user account names; added reference to NHS POC kerberos principal: added verification tests; added NHS checklist; added XML File Generation section
2.0	01/24/02	Todd Prissel (contractor 'HPTi")	Push/Pull modifications to incorporate host-site pus/pull.
2.1	03/18/02	Todd Prissel (contractor 'HPTi")	Attached HS & NHS instructions from ASC; Added Appendix C
2.2	03/25/02	Todd Prissel (contractor 'HPTi")	Change Push/Pull from Kerberos-keytab to ssh (Vern Staats)
2.3	04/16/02	Todd Prissel (contractor 'HPTi")	Note requirement to pass port 2230, add section on intraNHS file transfers. (Vern Staats)

Quality Information

Author: IE Integration Group		Site: Eau Claire (Eau)
Document #	Control I.D. 13	Document Location: <HPTI>

Table of Contents

1. Purpose

The purpose of this document is to give HPCMP-IE non-host-sites the information required to facilitate both connection to the HPCMP-IE host-site system and the transference of status files. It also explains the push/pull procedure for the status files that are required from each non-host-site.

2. General Requirements

Within this guide, there are a number of general requirements:

- Each Non-Host site will provide a machine dedicated to providing the IE File Transfer function. This machine must not share cycles for HPC usage. It may provide the HPC standard kerberized services (telnet, ssh, ftp) to a limited number of SyAdmin and IE admin personnel. The recommended hostname for this machine is "iedata". The non-host site may use a different hostname, but the change must be coordinated with the host site.

- The Non-Host site "iedata" machine shall be installed, configured, and secured according to local non-host site practices. Any unnecessary services must be removed from this system. Any unnecessary user accounts must be removed from this system. A new user account named "ieaccess" must be added for use by the host site file transfer mechanism.

- Secure Shell (ssh) with RSA Authentication will be used to transfer files. File transfers will be initiated by the host site. The non-host site shall install the current release of the HPC standard kerberized ssh (ssh-1.2.27c, or later) and run an sshd daemon configured for use by the host site as specified in the file transfer kit provided by the host site (iexfer-nhs-1.2.tar.gz, or later). This sshd daemon runs on a non-standard port (2230) to allow for the local use of another sshd daemon on the standard port 22. Any firewalls or routers between the Host and Non-Host sites must be configured to allow connections from the Host Site data transfer machine to port 2230 on the Non-Host site "iedata" machine.

- The Non-Host site must take reasonable and prudent measures to limit access to the "ieaccess" account and to ensure the integrity of the data files it provides to the host site.

- The Host Site must take reasonable and prudent measures to protect the private RSA keys used to access the non-host site and to ensure the integrity of the data files it provides to the non-host site.

- The transfer of Queue status and Site Accounting-status data must occur on a regular schedule. Transfer of Queue status must occur once every 15 minutes, and transfer of Site Accounting-status must occur once every 24 hours. It is highly recommended that this process be automated to provide a more consistent output format.

- The data files must be in an XML format. A document describing the specific details of what this file must contain has been forwarded to each non-host-site.

- All status files to be transferred will contain only "change data" rather than a full set of data. The non-host sites must incorporate tools that will generate only change data files.

3. XML File Generation

Each NHS must create XML files containing change data from their NHS system. The NHS can either generate the XML files directly using a custom method developed by their own site, or create a set of CSV files and use a translator, which will be supplied, to convert them to an XML file prior to pushing it to the host-site. Either way, the file that gets pulled up to the host-site must be an XML file.

Both methods incorporate the use of an XSD file. The XSD file is used to validate that the XML file was generated correctly and is in the proper format, i.e. if it is an integer it is passing an integer, if it is a character it is passing a character, etc.

3.1 Own Site's Custom Tool

If a NHS chooses to use a custom tool developed by their own site, they must incorporate the following two requirements:

- Obtain XML engine that supports W3C Schema Recommendation (Xerces V1.4.1) for validation

- Obtain local copy of the IE schema definition file that is required in the first line of all XML files generated

- XML file must follow the format as described in the file distributed to each NHS (IEXML1-7-02.zip)

3.2 Supplied CSV to XML Translator

A CSV to XML translator has been provided to each NHS. This translator can be used by those sites that choose not to create the XML file directly using a custom method. This tool requires the NHS to do the following:

- Generate CSV files

- Configure the translator application to match their local sight

- Run the translator

4. File Transfer

4.1 Generalized Operation

The transfer of files between the host-site and the non-host-site must be done using an authenticated, secure connection. Secure Shell (ssh) provides encryption, authentication, and a straightforward method for limiting the actions which may be performed over the secure connection. First, each NHS runs a secure shell server (sshd) configured to only accept connections from a single site (the host site) for a single user ("ieaccess"). Incoming connections to the NHS "ieaccess" account are authenticated using a limited number of public/private keypairs. Each key is bound to a specific function; general shell access by the host site is prohibited.

The following drawing depicts file transfers between the Host and Non-Host sites. Three separate files and sets of keys will be transferred at various times throughout the day as specified in this document. These files and keys are depicted in the drawing and are:

1. 'queue-stat.xml' and 'Send qstat',

2. 'account-stat.xml' and 'Send acc-stat'

3. 'account-update' and 'Recv qstat'
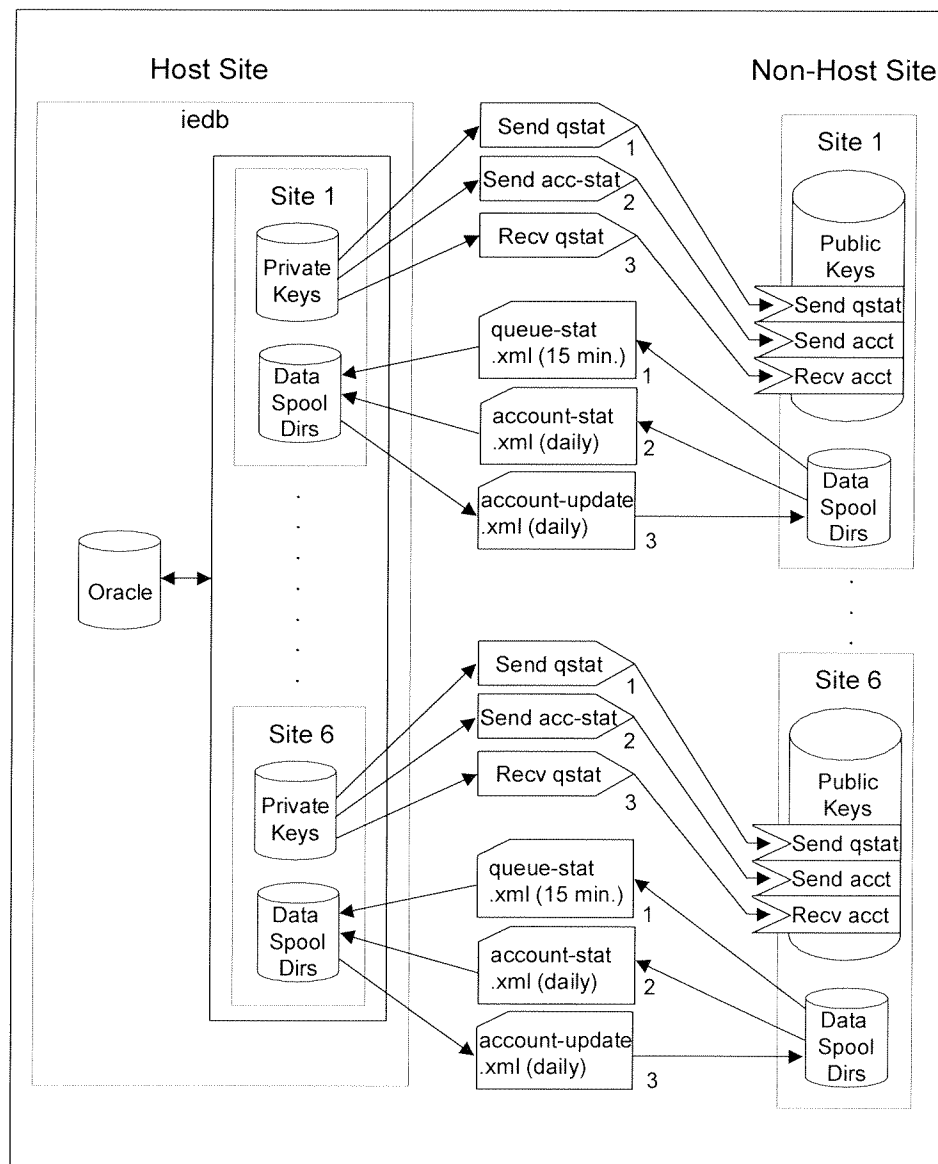
4.2 Preparation

This section describes the sequence of steps that needs to be done at each non-host-site to integrate the transfer process between the non-host-sites and the host-site.

a) Select a machine to provide the IE File Transfer function. This machine must not share cycles for HPC usage. This machine is referred to as "iedata" throughout this document. You may use this recommended hostname or choose another. Provide the hostname you use to the Host Site IE administrator.

b) Install, configure, and secure the "iedata" machine according to your local site practices. Remove any unnecessary accounts from the system. Add a new user account for use by the Host Site. This account must be named "ieaccess". Assign a local IE Data Administrator and give them access to this account (e.g. .k5login).

c) Remove any unnecessary services from the system. Install the current release of the HPC standard kerberized ssh (ssh-1.2.27c, or later). Obtain the current release of the NHS file transfer kit from the host site (iexfer-nhs-1.2.tar.gz, or later).

d) Have the local IE Data Administer log in to the ieaccess account and unpack the file transfer kit in the ieaccess account's home directory. Run the bin/setup.nhs script. Among other things, this script should create the following directories within the 'ieaccess' home directory: 'queuedata', 'upload', and 'download'

e) The ieaccess account provides a SystemV-style sshd startup script (bin/sshdaemon). The iedata SysAdmin should examine this script and configure an instance of sshd to run at system startup using the ieaccess .ssh/ie_sshd_config file. They should then either reboot iedata or manually start the IE sshd server. Note that this instance of sshd runs on a separate port (2230) to allow for the use of a standard sshd server on the iedata machine.

f) The local IE Data Administrator should verify that sshd is up and running (see appendix A). They should then contact the Host Site IE administrator to inform them of the hostname used for the site and that the non-host site's sshd server is up.

g) At this point the Host Site will allocate space for the Non-Host Site, create public/private keypairs for it, and issue a rekey command to install the new keys on the Non-Host Site.

4.3 Non-Host Site Operation

This section details the process the non-host site must follow in handling the IE xml files. It includes the naming of the files, where to place the non-host site generated files, where to retrieve the host site generated files, and how to incorporate the files.

a) Create the queue XML data file. Name it 'queue-stat.xml' and place it in the 'queuedata' directory of the 'ieaccess' home directory. Repeat every 15 minutes, overwriting the older file. At any given time there should be only one file in the 'queuedata' directory.

Note: IE will NOT retain any historical copies of the 'queue-stat.xml' files. If it is deemed necessary to retain a copy of these files, this responsibility falls on the Non-Host sites. The length of time a file is kept is solely up to each Non-Host site.

b) Create the accounting XML data upload file. Name it 'account-status.xml' and place it in the 'upload' directory of the 'ieaccess' home directory. Repeat daily at an appropriate time.

Note: IE will NOT retain any historical copies of the 'account-stat.xml' files. If it is deemed necessary to retain a copy of these files, this responsibility falls on the Non-Host sites. The length of time a file is kept is solely up to each Non-Host site.

c) Check the 'download' directory for the update file from IE named 'account-update.xml'. This will be transferred down at the same time as the upload of the 'account-status.xml' file. Contact the Host Site IE administrator for specific times. This file will be overwritten on a daily basis.

Note: IE will NOT retain any historical copies of the 'account- update.xml' files. If it is deemed necessary to retain a copy of these files, this responsibility falls on the Non-Host sites. The length of time a file is kept is solely up to each Non-Host site.

d) Write a script to disseminate the information from the 'account-update.xml' and programmatically incorporate allocations on local resources.

4.4 Host Site Operation (for informational purposes only)

This section gives an overview of how the host site pushes and pulls files from the non-host sites. In these examples user "iexfer" on host site machine "iedb" initiates data transfers as user "ieaccess" to the non-host site machine "iedata". This is intended for informational purposes only.

4.4.1 Queue Data

a) Host site user "iexfer" runs the script bin/getqstat. This script takes a single argument: the name of a local host site directory previously created for the target non-host site. Example: bin/getqstat asc

b) The getqstat script uses ssh to connect to "iedata" as user "ieaccess" and authenticates using the private key keys/sendqstat. It receives data which it saves on the Host Site side in queuedata/queuestat.xml. The actual ssh command is slightly more complicated than this example: ssh –p 2230 –l ieaccess –i keys/sendqstat iedata.nhs.hpc.mil > queuedata/queuestat.xml

c) The Non-Host Site's sshd receives the connection attempt and checks the AllowHosts and AllowUsers entries in its ie_sshd_config file to verify that the connection is permitted. If so, it goes on to check its .ssh/authorized_keys file to verify that the authentication key is permitted, and whether any additional limitations are placed on the key. All keys in this file have "host=" and "command=" limitations. The "host=" limitation is the same as AllowHosts. The "command=" limitation forces the specified command to be run instead of giving the authenticated user a general purpose shell. The command for the sendqstat key is the iefuncs/send_qstat script.

d) The send_qstat script runs on the Non-Host site. The actual script is slightly more complicated than this example: cat < queuedata/queue-stat.xml

4.4.2 Account Data

a) Host site user "iexfer" runs the script bin/sendacct. This script takes a single argument: the name of a local host site directory previously created for the target non-host site. Example: bin/sendacct asc

b) The sendacct script uses ssh to connect to "iedata" as user "ieaccess" and authenticates using the private key keys/sendqstat. It sends data which is saved on the Non-Host Site side in upload/account-status.xml. The actual ssh command is slightly more complicated than this example: ssh –p 2230 –l ieaccess –i keys/recvacct iedata.nhs.hpc.mil < upload/account-status.xml

c) Connection checks, authentication, and limitations are applied exactly as in the Queue Data example above. In this case the recvacct key is limited by "command=iefuncs/recv_acctstat".

d) The recv_acctstat script runs on the Non-Host Site. The actual script is slightly more complicated than this example: cat > upload/account-status.xml

e) There is also a Host-Site bin/getacct script which transfers data in the opposite direction (from NHS to HS, as in the getqstat script). It uses the sendacct key which is bound on the Non-Host side to the iefuncs/send_acctstat script. This script sends the download/account-update.xml file from the Non-Host to the Host site.

5. File Transfer within Non-Host Site

Non-Host sites are free to devise their own mechanisms for transferring queue status and account allocation data from their local systems to the "iedata" data transfer machine. It is strongly recommended that the Non-Host site local systems not extend trust to the "iedata" machine; it should accept pushed data rather than pulling data from the other Non-Host site machines. We also recommend against providing NFS mounted filesystems to the "iedata" machine.

The planned method for file transfers within the ASC Non-Host site is presented as an example. A separate machine is used to collect and process queue status and account allocation data from the various ASC systems. This machine will generate two additional ssh keypairs, one to transfer queue status to iedata and one to transfer account allocation data. The corresponding public keys will be added to the ieaccess account's .ssh/authorized_keys file and bound to new scripts to receive local data into the appropriate directories.

Other sites may prefer to collect data and process it into .xml files directly on the "iedata" machine.

Appendix A: Verification Test

This process must be done in coordination with the host site.

    a.   Verify the "iedata" machine has been properly configured.

    b.   Verify the "ieaccess" account has been created.

    c.   Verify that sshd is up and running on the IE data transfer port (2230): run

        ssh –v –p 2230 iedata

       This should connect and then fail authentication. You should see a line showing the remote protocol version and remote software version in the disgnostic output.

    d.   Create a test file called 'queuedata/queue-stat.xml'. Create a test file called 'upload/account-status.xml'.

    e.   Coordinate with the host site to have them pull the 'queuedata/queue-stat.xml' and 'upload/account-status.xml' files using. Verify the files were pulled.

    f.   Coordinate with the host site to have them push the 'download/account-update.xml' file. Verify the file was pushed.

Appendix B: Non-Host-Site Checklist

1. Identify system that will interface to the Host-Site (NHS interface system).

2. Configure and secure according to local site practices.

3. Remove unnecessary accounts and services.

4. Create the "ieaccess" account and install the iexfer-nhs kit.

5. Within the 'ieaccess' home directory create the following directories: 'queuedata', 'upload', and 'download'

6. Verify that sshd is installed, running, and set to run at system startup using the ie_sshd_config file.

7. Coordinate with the host-site system administrator to test the push/pull process. Inform the host-site system administrator of the hostname for NHS machine.

8. Create XML file containing change data from NHS system.

   There are two XML files that need to be created. These files contain the following: 1) the queue status, which is pulled by the host-site every 15 minutes, 2) the accounting status, which is pulled by the host-site every 24 hours. The NHS can either generate the XML file directly using a custom tool, or create a CSV file and use a translator, which will be supplied, to convert it to XML prior to pushing it to the host-site. Either way, the file that gets pushed up to the host-site is an XML file.

9. Write a script to automatically copy and date stamp the pushed '/download/account-update.xml/' the file on the scheduled basis.

10. Write a script to disseminate the information from the '/download/account-update.xml/' file pushed from the host-site system and programmatically incorporate allocation of local resources.

Appendix C: NHS System Requirements

Based on the premise that the HPCMO has mandated a dedicated system for support of IE at the NHS, the following is a reference system configuration

1. Platform
   - Platform option 1 : Sun blade 100 with 10gb of free space for IE files. OS either solaris 2.8 or respective site recommended linux.
   - Platform option 2 : Intel based system with site recommended linux. At least 10gb of free space for IE files.
2. JRE 1.3.1. Available from java.sun.com
3. HPCMP kerberos software installed and configured
4. SSH server installed and configured according to the directions in the attached document

Reference

Kerberos FAQ – http://www.nrl.navy.mil/CCS/people/kehn/kerberos-faq.html

Kerberos FAQ / 3.2 How do I run a cron job with Kerberos authentication? – http://www.nrl.navy.mil/CCS/people/kehn/kerberos-faq.html#kerbcron

DEPARTMENT OF DEFENSE CONTRACT SECURITY CLASSIFICATION SPECIFICATION *(The requirements of the DoD Industrial Security Manual apply* SEC-23-02A *to all security aspects of this effort.)*	1. CLEARANCE AND SAFEUARDING	
	a. FACILITY CLEARANCE REQUIRED **SECRET**	
	b. LEVEL OF SAFEGUARDING REQUIRED **SECRET**	

2. THIS SPECIFICATION IF FOR: *(X an complete as applicable)*

	a. PRME CONTRACT NUMBER
	b. SUBCONTRACT NUMBER
X	c. SOLICITATION OR OTHER NUMBER **DAAD19-02-R-0008**

3. THIS SPECIFICATION IS: *(X an complete as applicable)*

X	a. ORIGINAL *(Complete date in all cases)*	Date (YYMMDD) **6/20/2002**
	b. REVISED *(Supersedes all previous specs)* Revision No.	Date (YYMMDD)
	c. FINAL *(Complete Item 5 in all cases)*	Date (YYMMDD)

4. IS THIS A FOLLOW-ON CONTRACT? **X** YES ___ NO. If yes, complete the following:

Classified material received or generated under **DASW01-01-C-0015** _____ (Preceeding Contract Number) is transferred to this follow-on contract

5. IS THIS A FINAL DD FORM 254? ___ YES **X** NO. If yes, complete the following:

In response to the contractor's request dated _____ , retention of the identified classified material is authjorized for the period of _____

6. CONTRACTOR *(Include comercial and Government Entity (CAGE) Code)*

a. NAME, ADDRESS,AND ZIP CODE	b. CAGE CODE	C. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*

7. SUBCONTRACTOR

a. NAME, ADDRESS,AND ZIP CODE	b. CAGE CODE	C. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*

8. ACTUAL PERFORMANCE

a. LOCATION	b. CAGE CODE	C. COGNIZANT SECURITY OFFICE *(Name, Address, and Zip Code)*

9. GENERAL IDENTICICATION OF THIS PROCUREMENT

SUPPORT INFRASTRUCTURE EFFORTS OF THE ARMY HIGH PERFORMANCE COMPUTING RESEARCH CENTER (AHPCRC) AND VARIOUS ARMY SITES (SEE ATTACHED LISTING) TO INCLUDE (1) SUPPORT SERVICES FOR THE RESEARCH EFFORTS AT THE AHPCRC, (2) THE FOSTERING OF TECHNOLOGY EXCHANGE BETWEEN ACADEMIA, GOVERNMENT AND INDUSTRY USE OF HIGH PERFORMANCE COMPUTING EQUIPMENT AND (3) SUPPORT AT THE ARMY SITES IN HIGH PERFORMANCE COMPUTING EFFORTS.

10. THIS CONTRACT WILL REQUIRE ACCESS TO:	Yes	No	11. IN PERFORMING THIS CONTRACT THE CONTRACTOR WILL:	Yes	No
a. COMMUNICATIONS SECURITY (COMSEC) INFORMATION	X		a. HAVE ACCESS TO CLASSIFID ONLY AT ANOTHER CONTRACTOR'S FACILITY OR A GOVERNMENT ACTIVITY		X
b. RESTRICTED DATA		X	b. RECEIVE CLASSIFIED DOCUMENT ONLY		X
c. CRITICAL NUCLEAR WEAPON DESIGN INFORMATION		X	c. REVEIVE AND GENERATE CLASSIFIED MATERIAL	X	
d. FORMERLY RESTRICTED DATA		X	d. FABRICATE, MODIFY, OR STORE CLASSIFIED HARDWARE		X
e. INTELLIGENCE INFORMATION:			e. PERFORM SERVICES ONLY		X
(1) Sensitive Compartmented Information (SCI)		X	f. HAVE ACCESS TO U.S. CLASSIFID INFORMATION OUTSIDE THE U.S. PUERTO RICO, U.S. POSSESSIONS AND TRUST TERITORIES		X
(2) Non-SCI		X	g. BE AUTHORIZED TO USE THE SERVICES OF DEFENSE TECHNICAL INFORMATION CENTER (DTIC) OR OTHER SECONDARY DISTRIBUTION CENTER	X	
f. SPECIAL ACCESS INFORMATION		X	h. REQUIRE A COMSEC ACCOUNT	X	
g. NATO INFORMATION		X	i. HAVE TEMPEST REQUIREMENTS		X
h. FOREIGN GOVERNMENT INFORMATION		X	j. HAVE OPERATIONS SECURITY (OPSEC) REQUIREMENTS		X
i. LIMITED DISSEMINATION INFORMATION		X	k. BE AUTHORIZED TO USE DEFENSE COURIER SERVICE		X
j. FOR OFFICIAL USE ONLY INFORMATION	X		l. OTHER *(Specify)*		
k. OTHER *(Specify)*		X			X

ID Form 254-E. DEC 90   Previous editions are obsolete.

12. PUBLIC RELEASE. Any information (*classified or unclassified*) pertaining to this contract shall not be released for public dissemination except as provided by the Industrial Security Manual or unless it has been approved for public release by appropriate U.S. Government authority. Proposed public releases shall be submitted for approval prior to release.

[ ] Direct   [X] Through *(Specify)*

THE ACTIVITY INVOLVED (E.G. ARL, CAA, TARDEC, ETC.), IN ACCORDANCE WITH THE PUBLIC RELEASE PROCEDURES FOR THE ACTIVITY.

to the Directorate for freedom of information and Security Review, Office of the Assistant Secretary of Defense (Public Affairs)* for review.
* In the case of non-DoD User Agencies, requests for disclosure shall be submitted to that agency.

13. SECURITY GUIDANCE. The security classification guidance needed for this classified effort is identified belos. If any dificulty is encountered in applying this guidance or if any other contributing factor indicates a need for changes in this guidance, the contractor is authorized and encouraged to provide recommended changes; to challenge the guidance or the classification assigned to any information or material furnished or generated under this contract; and to submit any questions for interpretation of this guidance t the official indicated beloe. Pending final decision, the information involved shall be protected at the highest level of classification assigned or recommended. (Fill in as appropriate for the classified effort. Attach , or forward under separate correspondence, any documents/guides/extracts referenced herin. Add additional pages as needed to provide complete guidance.)

CONTRACTOR MAY RECEIVE AND GENERATE CLASSIFIED INFORMATION UNDER THIS CONTRACT IN CONJUNCTION WITH ITS ACTIVITIES IN SUPPORT OF ARL, CAA, ERDC, TARDEC, TACOM-ARDEC, ETC.

ALL ACTIONS REQUIRING CONTRACTING OFFICER'S AUTORIZATION OR VERIFICATION WILL BE REFERRED TO THE U.S. ARMY RESEARCH LABORATORY, ATTN: AMSRL-CS-IO-SC, 2800 POWDER MILL ROAD, ADELPHI, MD 20783-1197.

THE CONTRACTING OFFICER'S TECHNICAL REPRESENTATIVE WILL PROVIDE CLASSIFICATION GUIDANCE FOR EACH ADDITIONAL TASK TO BE PERFORMED.

OPEN SKIES: OPEN SKIES TREATY HAS BEEN CONSIDERED. ADDITIONAL SECURITY REQUIREMENTS ARE NOT REQUIRED.

For BENJAMIN E. BRUSO, Team Leader, ARL Scty/CI Office   19 Jul 02

14. ADDTIONAL SECURITY REQUIREMENTS. Requirements, in addition to ISM requirements, are established for this contract.
(If Yes, identify the pertinent contractual clauses in the contract document itself, or provide an appropriate statement which identifies the additional requirements. Provide a copy of the requirement to the cognizant security office. Use Item 13 if additional space is needed.)   [ ] Yes [X] No

15. INPECTIONS. Elements of this contract are outside the inspection responsibilty of the cognizant security office. (If yes explain and identify specific areas or elements carved out and the activity responsible for inspections. Use Item 13 if additional space if needed.)   [ ] Yes [X] No

16. CERTIFICATION AND SIGNATURE. Security requirements stated herein are complete and adequate for safeguarding the classified information to be released or generated under this classified effort. All questions shall be referred to the official named below.

a. TYPED NAME OF CERTIFYING OFFICIAL	b. TITLE	c. TELEPHONE (*Include Area Code*)
Patricia J. Fox	Contracting Officer	919-549-4272

d. ADDRESS (*Include Zip Code*)
U.S. Army Robert Morris Acquisition Center
P.O. Box 12211
Research Triangle Park, NC 27709-2211

e. SIGNATURE

17. REQUIRED DISTRIBUTION

X	a. CONTRACTOR	
	b. SUBCONTRACTOR	
X	c. COGNIZANT SECURITY OFFICE FOR PRIME AND SUBCONTRACTOR	
	d. U.S. ACTIVITY RESPONSIBLE FOR OVERSEAS SECURITY ADMINISTRATION	
X	e. ADMINISTRATIVE CONTRACTING OFFICER	
X	f. OTHER AS NECESSARY See Distribution	

DD Form 254-E Reverse, DEC 90

SECTION K Representations, Certifications and Other Statements of Offerors

CLAUSES INCORPORATED BY FULL TEXT

52.203-2   CERTIFICATE OF INDEPENDENT PRICE DETERMINATION (APR 1985)

(a) The offeror certifies that --

(1) The prices in this offer have been arrived at independently, without, for the purpose of restricting competition, any consultation, communication, or agreement with any other offeror or competitor relating to –

(i)   Those prices,

(ii) The intention to submit an offer, or

(iii) The methods of factors used to calculate the prices offered:

(2) The prices in this offer have not been and will not be knowingly disclosed by the offeror, directly or indirectly, to any other offeror or competitor before bid opening (in the case of a sealed bid solicitation) or contract award (in the case of a negotiated solicitation) unless otherwise required by law; and

(3) No attempt has been made or will be made by the offeror to induce any other concern to submit or not to submit an offer for the purpose of restricting competition.

(b) Each signature on the offer is considered to be a certification by the signatory that the signatory --

(1) Is the person in the offeror's organization responsible for determining the prices offered in this bid or proposal, and that the signatory has not participated and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision; or

(2) (i) Has been authorized, in writing, to act as agent for the following principals in certifying that those principals have not participated, and will not participate in any action contrary to subparagraphs (a)(1) through (a)(3) of this provison _____ (insert full name of person(s) in the offeror's organization responsible for determining the prices offered in this bid or proposal, and the title of his or her position in the offeror's organization);

(ii) As an authorized agent, does certify that the principals named in subdivision (b)(2)(i) above have not participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) above; and

(iii) As an agent, has not personally participated, and will not participate, in any action contrary to subparagraphs (a)(1) through (a)(3) of this provision.

(c) If the offeror deletes or modifies subparagraph (a)(2) of this provision, the offeror must furnish with its offer a signed statement setting forth in detail the circumstances of the disclosure.

(End of provision)

52.203-11   CERTIFICATION AND DISCLOSURE REGARDING PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS (APR 1991)

(a) The definitions and prohibitions contained in the clause, at FAR 52.203-12, Limitation on Payments to Influence Certain Federal Transactions, included in this solicitation, are hereby incorporated by reference in paragraph (b) of this Certification.

(b) The offeror, by signing its offer, hereby certifies to the best of his or her knowledge and belief that on or after December 23, 1989,--

(1) No Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a member of Congress on his or her behalf in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment or modification of any Federal contract, grant, loan, or cooperative agreement;

(2) If any funds other than Federal appropriated funds (including profit or fee received under a covered Federal transaction) have been paid, or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress or an employee of a Member of Congress on his or her behalf in connection with this solicitation, the offeror shall complete and submit, with its offer, OMB standard form LLL, Disclosure of Lobbying Activities, to the Contracting Officer; and

(3) He or she will include the language of this certification in all subcontract awards at any tier and require that all recipients of subcontract awards in excess of $100,000 shall certify and disclose accordingly.

(c)   Submission of this certification and disclosure is a prerequisite for making or entering into this contract imposed by section 1352, title 31, United States Code. Any person who makes an expenditure prohibited under this provision, shall be subject to a civil penalty of not less than $10,000, and not more than $100,000, for each such failure.
(End of provision)

52.204-3   TAXPAYER IDENTIFICATION (OCT 1998)

(a) Definitions.

"Common parent," as used in this provision, means that corporate entity that owns or controls an affiliated group of corporations that files its Federal income tax returns on a consolidated basis, and of which the offeror is a member.

"Taxpayer Identification Number (TIN)," as used in this provision, means the number required by the Internal Revenue Service (IRS) to be used by the offeror in reporting income tax and other returns. The TIN may be either a Social Security Number or an Employer Identification Number.

(b) All offerors must submit the information required in paragraphs (d) through (f) of this provision to comply with debt collection requirements of 31 U.S.C. 7701(c) and 3325(d), reporting requirements of 26 U.S.C. 6041, 6041A, and 6050M, and implementing regulations issued by the IRS. If the resulting contract is subject to the payment reporting requirements described in Federal Acquisition Regulation (FAR) 4.904, the failure or refusal by the offeror to furnish the information may result in a 31 percent reduction of payments otherwise due under the contract.

(c) The TIN may be used by the Government to collect and report on any delinquent amounts arising out of the offeror's relationship with the Government (31 U.S.C. 7701(c)(3)). If the resulting contract is subject to the payment reporting requirements described in FAR 4.904, the TIN provided hereunder may be matched with IRS records to verify the accuracy of the offeror's TIN.

(d) Taxpayer Identification Number (TIN).

_____ TIN:._____

_____ TIN has been applied for.

_____ TIN is not required because:

_____ Offeror is a nonresident alien, foreign corporation, or foreign partnership that does not have income effectively connected with the conduct of a trade or business in the United States and does not have an office or place of business or a fiscal paying agent in the United States;

_____ Offeror is an agency or instrumentality of a foreign government;

_____ Offeror is an agency or instrumentality of the Federal Government.

(e) Type of organization.

_____ Sole proprietorship;

_____ Partnership;

_____ Corporate entity (not tax-exempt);

_____ Corporate entity (tax-exempt);

_____ Government entity (Federal, State, or local);

_____ Foreign government;

_____ International organization per 26 CFR 1.6049-4;

_____ Other _____

(f) Common parent.

_____ Offeror is not owned or controlled by a common parent as defined in paragraph (a) of this provision.

_____ Name and TIN of common parent:

Name _____

TIN _____

(End of provision)

52.204-5   WOMEN-OWNED BUSINESS (OTHER THAN SMALL BUSINESS) (MAY 1999)

(a) Definition. Women-owned business concern, as used in this provision, means a concern that is at least 51 percent owned by one or more women; or in the case of any publicly owned business, at least 51 percent of its stock is owned by one or more women; and whose management and daily business operations are controlled by one or more women.

(b) Representation. [Complete only if the offeror is a women-owned business concern and has not represented itself as a small business concern in paragraph (b)(1) of FAR 52.219-1, Small Business Program Representations, of this solicitation.] The offeror represents that it ( ) is a women-owned business concern.

(End of provision)

52.209-5   CERTIFICATION REGARDING DEBARMENT, SUSPENSION, PROPOSED DEBARMENT, AND OTHER RESPONSIBILITY MATTERS (DEC 2001)

(a)(1) The Offeror certifies, to the best of its knowledge and belief, that--

(i) The Offeror and/or any of its Principals--

(A) Are [ ] are not [ ] presently debarred, suspended, proposed for debarment, or declared ineligible for the award of contracts by any Federal agency;

(B) Have [ ] have not [ ], within a three-year period preceding this offer, been convicted of or had a civil judgment rendered against them for: commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, state, or local) contract or subcontract; violation of Federal or state antitrust statutes relating to the submission of offers; or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, tax evasion, or receiving stolen property; and

(C) Are [ ] are not [ ] presently indicted for, or otherwise criminally or civilly charged by a governmental entity with, commission of any of the offenses enumerated in subdivision (a)(1)(i)(B) of this provision.

(ii) The Offeror has [ ] has not [ ], within a three-year period preceding this offer, had one or more contracts terminated for default by any Federal agency.

(2) "Principals," for the purposes of this certification, means officers; directors; owners; partners; and, persons having primary management or supervisory responsibilities within a business entity (e.g., general manager; plant manager; head of a subsidiary, division, or business segment, and similar positions).

THIS CERTIFICATION CONCERNS A MATTER WITHIN THE JURISDICTION OF AN AGENCY OF THE UNITED STATES AND THE MAKING OF A FALSE, FICTITIOUS, OR FRAUDULENT CERTIFICATION MAY RENDER THE MAKER SUBJECT TO PROSECUTION UNDER SECTION 1001, TITLE 18, UNITED STATES CODE.

(b) The Offeror shall provide immediate written notice to the Contracting Officer if, at any time prior to contract award, the Offeror learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

(c) A certification that any of the items in paragraph (a) of this provision exists will not necessarily result in withholding of an award under this solicitation. However, the certification will be considered in connection with a determination of the Offeror's responsibility. Failure of the Offeror to furnish a certification or provide such additional information as requested by the Contracting Officer may render the Offeror nonresponsible.

(d) Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by paragraph (a) of this provision. The knowledge and information of an Offeror is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

(e) The certification in paragraph (a) of this provision is a material representation of fact upon which reliance was placed when making award. If it is later determined that the Offeror knowingly rendered an erroneous certification, in addition to other remedies available to the Government, the Contracting Officer may terminate the contract resulting from this solicitation for default.

(End of provision)

52.215-6   PLACE OF PERFORMANCE (OCT 1997)

(a) The offeror or respondent, in the performance of any contract resulting from this solicitation, ( ) intends, ( ) does not intend [check applicable block] to use one or more plants or facilities located at a different address from the address of the offeror or respondent as indicated in this proposal or response to request for information.

(b) If the offeror or respondent checks "intends" in paragraph (a) of this provision, it shall insert in the following spaces the required information:

Place of Performance(Street Address, City, State, County, Zip Code) | **Name and Address of Owner and Operator of the Plant or Facility if Other Than Offeror or Respondent**

(End of provision)

52.219-1   SMALL BUSINESS PROGRAM REPRESENTATIONS (MAY 2001)

(a)(1) The North American Industry Classification System (NAICS) code for this acquisition is 541990.

(2) The small business size standard is $6 Million.

(3) The small business size standard for a concern which submits an offer in its own name, other than on a construction or service contract, but which proposes to furnish a product which it did not itself manufacture, is 500 employees.

(b) Representations. (1) The offeror represents as part of its offer that it ( ) is, ( ) is not a small business concern.

(2) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents, for general statistical purposes, that it ( ) is, ( ) is not a small disadvantaged business concern as defined in 13 CFR 124.1002.

(3) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a women-owned small business concern.

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(4) (Complete only if the offeror represented itself as a small business concern in paragraph (b)(1) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a veteran-owned small business concern.

(5) (Complete only if the offeror represented itself as a veteran-owned small business concern in paragraph (b)(4) of this provision.) The offeror represents as part of its offer that it ( ) is, ( ) is not a service-disabled veteran-owned small business concern.

(c) Definitions. As used in this provision--

Service-disabled veteran-owned small business concern--

(1) Means a small business concern--

(i) Not less than 51 percent of which is owned by one or more service-disabled veterans or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more service-disabled veterans; and

(ii) The management and daily business operations of which are controlled by one or more service-disabled veterans or, in the case of a veteran with permanent and severe disability, the spouse or permanent caregiver of such veteran.

(2) Service-disabled veteran means a veteran, as defined in 38 U.S.C. 101(2), with a disability that is service-connected, as defined in 38 U.S.C. 101(16).

"Small business concern," means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR Part 121 and the size standard in paragraph (a) of this provision.

Veteran-owned small business concern means a small business concern--

(1) Not less than 51 percent of which is owned by one or more veterans (as defined at 38 U.S.C. 101(2)) or, in the case of any publicly owned business, not less than 51 percent of the stock of which is owned by one or more veterans; and

(2) The management and daily business operations of which are controlled by one or more veterans.

"Women-owned small business concern," means a small business concern --

(1) Which is at least 51 percent owned by one or more women or, in the case of any publicly owned business, at least 51 percent of the stock of which is owned by one or more women; and

(2) Whose management and daily business operations are controlled by one or more women.

(d) Notice.

(1) If this solicitation is for supplies and has been set aside, in whole or in part, for small business concerns, then the clause in this solicitation providing notice of the set-aside contains restrictions on the source of the end items to be furnished.

(2) Under 15 U.S.C. 645(d), any person who misrepresents a firm's status as a small, HUBZone small, small disadvantaged, or women-owned small business concern in order to obtain a contract to be awarded under the preference programs established pursuant to section 8(a), 8(d), 9, or 15 of the Small Business Act or any other provision of Federal law that specifically references section 8(d) for a definition of program eligibility, shall--

(i) Be punished by imposition of fine, imprisonment, or both;

(ii) Be subject to administrative remedies, including suspension and debarment; and

(iii) Be ineligible for participation in programs conducted under the authority of the Act.

(End of provision)

52.222-22   PREVIOUS CONTRACTS AND COMPLIANCE REPORTS (FEB 1999)

The offeror represents that --

(a) [ ] It has, [ ] has not participated in a previous contract or subcontract subject to the Equal Opportunity clause of this solicitation;

(b) [ ] It has, [ ] has not, filed all required compliance reports; and

(c) Representations indicating submission of required compliance reports, signed by proposed subcontractors, will be obtained before subcontract awards.

(End of provision)

52.222-25   AFFIRMATIVE ACTION COMPLIANCE (APR 1984)

The offeror represents that

(a) [ ] it has developed and has on file, [ ] has not developed and does not have on file, at each establishment, affirmative action programs required by the rules and regulations of the Secretary of Labor (41 CFR 60-1 and 60-2), or

(b) [ ] has not previously had contracts subject to the written affirmative action programs requirement of the rules and regulations of the Secretary of Labor.

(End of provision)

52.222-38   COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (DEC 2001)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 38 U.S.C. 4212(d) (i.e., if it has any contract containing Federal Acquisition Regulation clause 52.222-37, Employment Reports on Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans), it has submitted the most recent VETS-100 Report required by that clause.

(End of provision)

52.223-13   CERTIFICATION OF TOXIC CHEMICAL RELEASE REPORTING (OCT 2000)

(a) Submission of this certification is a prerequisite for making or entering into this contract imposed by Executive Order 12969, August 8, 1995.

(b) By signing this offer, the offeror certifies that--

(1) As the owner or operator of facilities that will be used in the performance of this contract that are subject to the filing and reporting requirements described in section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) (42 U.S.C. 11023) and section 6607 of the Pollution Prevention Act of 1990 (PPA) (42 U.S.C. 13106), the offeror will file and continue to file for such facilities for the life of the contract the Toxic Chemical Release Inventory Form (Form R) as described in sections 313(a) and (g) of EPCRA and section 6607 of PPA; or

(2) None of its owned or operated facilities to be used in the performance of this contract is subject to the Form R filing and reporting requirements because each such facility is exempt for at least one of the following reasons: (Check each block that is applicable.)

[ ] (i) The facility does not manufacture, process or otherwise use any toxic chemicals listed under section 313(c) of EPCRA, 42 U.S.C. 11023(c);

[ ] (ii) The facility does not have 10 or more full-time employees as specified in section 313.(b)(1)(A) of EPCRA 42 U.S.C. 11023(b)(1)(A);

[ ] (iii) The facility does not meet the reporting thresholds of toxic chemicals established under section 313(f) of EPCRA, 42 U.S.C. 11023(f) (including the alternate thresholds at 40 CFR 372.27, provided an appropriate certification form has been filed with EPA);

[ ] (iv) The facility does not fall within Standard Industrial Classification Code (SIC) major groups 20 through 39 or their corresponding North American Industry Classification System (NAICS) sectors 31 through 33; or

[ ] (v) The facility is not located within any State of the United States, the District of Columbia, the Commonwealth of Puerto Rico, Guam, American Samoa, the United States Virgin Islands, the Northern Mariana Islands, or any other territory or possession over which the United States has jurisdiction.

52.225-2   BUY AMERICAN ACT CERTIFICATE (MAY 2002)

(a) The offeror certifies that each end product, except those listed in paragraph (b) of this provision, is a domestic end product as defined in the clause of this solicitation entitled "Buy American Act--Supplies" and that the offeror has considered components of unknown origin to have been mined, produced, or manufactured outside the United States. The offeror shall list as foreign end products those end products manufactured in the United States that do not qualify as domestic and products.

(b) Foreign End Products:

Line Item No.:--

Country of Origin:---

(List as necessary)

(c) The Government will evaluate offers in accordance with the policies and procedures of Part 25 of the Federal Acquisition Regulation.

(End of provision)

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52.227-6   ROYALTY INFORMATION (APR 1984)

(a) Cost or charges for royalties. When the response to this solicitation contains costs or charges for royalties totaling more than $250, the following information shall be included in the response relating to each separate item of royalty or license fee:

(1) Name and address of licensor.

(2) Date of license agreement.

(3) Patent numbers, patent application serial numbers, or other basis on which the royalty is payable.

(4) Brief description, including any part or model numbers of each contract item or component on which the royalty is payable.

(5) Percentage or dollar rate of royalty per unit.

(6) Unit price of contract item.

(7) Number of units.

(8) Total dollar amount of royalties.

(b) Copies of current licenses. In addition, if specifically requested by the Contracting Officer before execution of the contract, the offeror shall furnish a copy of the current license agreement and an identification of applicable claims of specific patents.

(End of provision)

52.230-1   COST ACCOUNTING STANDARDS NOTICES AND CERTIFICATION (JUN 2000)

Note: This notice does not apply to small businesses or foreign governments. This notice is in three parts, identified by Roman numerals I through III.

Offerors shall examine each part and provide the requested information in order to determine Cost Accounting Standards (CAS) requirements applicable to any resultant contract.

If the offeror is an educational institution, Part II does not apply unless the contemplated contract will be subject to full or modified CAS coverage pursuant to 48 CFR 9903.201-2(c)(5) or 9903.201-2(c)(6), respectively.

I. DISCLOSURE STATEMENT--COST ACCOUNTING PRACTICES AND CERTIFICATION

(a) Any contract in excess of $500,000 resulting from this solicitation will be subject to the requirements of the Cost Accounting Standards Board (48 CFR Chapter 99), except for those contracts which are exempt as specified in 48 CFR 9903.201-1.

(b) Any offeror submitting a proposal which, if accepted, will result in a contract subject to the requirements of 48 CFR Chapter 99 must, as a condition of contracting, submit a Disclosure Statement as required by 48 CFR 9903.202. When required, the Disclosure Statement must be submitted as a part of the offeror's proposal under this solicitation unless the offeror has already submitted a Disclosure Statement disclosing the practices used in connection with the pricing of this proposal. If an applicable Disclosure Statement has already been submitted, the offeror may satisfy the requirement for submission by providing the information requested in paragraph (c) of Part I of this provision.

CAUTION: In the absence of specific regulations or agreement, a practice disclosed in a Disclosure Statement shall not, by virtue of such disclosure, be deemed to be a proper, approved, or agreed-to practice for pricing proposals or accumulating and reporting contract performance cost data.

(c) Check the appropriate box below:

(1) Certificate of Concurrent Submission of Disclosure Statement.

The offeror hereby certifies that, as a part of the offer, copies of the Disclosure Statement have been submitted as follows: (i) original and one copy to the cognizant Administrative Contracting Officer (ACO) or cognizant Federal agency official authorized to act in that capacity (Federal official), as applicable, and (ii) one copy to the cognizant Federal auditor.

(Disclosure must be on Form No. CASB DS-1 or CASB DS-2, as applicable. Forms may be obtained from the cognizant ACO or Federal official and/or from the loose-leaf version of the Federal Acquisition Regulation.)

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the Disclosure Statement.

(2) Certificate of Previously Submitted Disclosure Statement.

The offeror hereby certifies that the required Disclosure Statement was filed as follows:

Date of Disclosure Statement: _____ Name and Address of Cognizant ACO or Federal Official Where Filed: _____

The offeror further certifies that the practices used in estimating costs in pricing this proposal are consistent with the cost accounting practices disclosed in the applicable Disclosure Statement.

(3) Certificate of Monetary Exemption.

The offeror hereby certifies that the offeror, together with all divisions, subsidiaries, and affiliates under common control, did not receive net awards of negotiated prime contracts and subcontracts subject to CAS totaling more than $50 million (of which at least one award exceeded $1 million) in the cost accounting period immediately preceding the period in which this proposal was submitted. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

(4) Certificate of Interim Exemption.

The offeror hereby certifies that (i) the offeror first exceeded the monetary exemption for disclosure, as defined in (3) of this subsection, in the cost accounting period immediately preceding the period in which this offer was submitted and (ii) in accordance with 48 CFR 9903.202-1, the offeror is not yet required to submit a Disclosure Statement. The offeror further certifies that if an award resulting from this proposal has not been made within 90 days after the end of that period, the offeror will immediately submit a revised certificate to the Contracting Officer, in the form specified under subparagraph (c)(1) or (c)(2) of Part I of this provision, as appropriate, to verify submission of a completed Disclosure Statement.

CAUTION: Offerors currently required to disclose because they were awarded a CAS-covered prime contract or subcontract of $50 million or more in the current cost accounting period may not claim this exemption (4). Further, the exemption applies only in connection with proposals submitted before expiration of the 90-day period following the cost accounting period in which the monetary exemption was exceeded.

II. COST ACCOUNTING STANDARDS--ELIGIBILITY FOR MODIFIED CONTRACT COVERAGE

If the offeror is eligible to use the modified provisions of 48 CFR 9903.201-2(b) and elects to do so, the offeror shall indicate by checking the box below. Checking the box below shall mean that the resultant contract is subject to the Disclosure and Consistency of Cost Accounting Practices clause in lieu of the Cost Accounting Standards clause.

( ) The offeror hereby claims an exemption from the Cost Accounting Standards clause under the provisions of 48 CFR 9903.201-2(b) and certifies that the offeror is eligible for use of the Disclosure and Consistency of Cost Accounting Practices clause because during the cost accounting period immediately preceding the period in which this proposal was submitted, the offeror received less than $50 million in awards of CAS-covered prime contracts and subcontracts. The offeror further certifies that if such status changes before an award resulting from this proposal, the offeror will advise the Contracting Officer immediately.

CAUTION: An offeror may not claim the above eligibility for modified contract coverage if this proposal is expected to result in the award of a CAS-covered contract of $50 million or more or if, during its current cost accounting period, the offeror has been awarded a single CAS-covered prime contract or subcontract of $25 million or more.

III. ADDITIONAL COST ACCOUNTING STANDARDS APPLICABLE TO EXISTING CONTRACTS

The offeror shall indicate below whether award of the contemplated contract would, in accordance with subparagraph (a)(3) of the Cost Accounting Standards clause, require a change in established cost accounting practices affecting existing contracts and subcontracts.

( ) YES ( ) NO

(d) The Contractor shall include in all negotiated subcontracts which the Contractor enters into, the substance of this clause, except paragraph (b), and shall require such inclusion in all other subcontracts, of any tier, including the obligation to comply with all CAS in effect on the subcontractor's award date or if the subcontractor has submitted cost or pricing data, on the date of final agreement on price as shown on the subcontractor's signed Certificate of Current Cost or Pricing Data. If the subcontract is awarded to a business unit which pursuant to 48 CFR 9903.201-3 is subject to other types of CAS coverage, the substance of the applicable clause set forth in subsection 30.201-4 of the Federal Acquisition Regulation shall be inserted. This requirement shall apply only to negotiated subcontracts in excess of $500,000, except that the requirement shall not apply to negotiated subcontracts otherwise exempt from the requirement to include a CAS clause as specified in 48 CFR 9903.201-1.

(End of clause)

252.209-7001   DISCLOSURE OF OWNERSHIP OR CONTROL BY THE GOVERNMENT OF A TERRORIST COUNTRY (MAR 1998)

(a) "Definitions."

As used in this provision --

(a) "Government of a terrorist country" includes the state and the government of a terrorist country, as well as any political subdivision, agency, or instrumentality thereof.

(2) "Terrorist country" means a country determined by the Secretary of State, under section 6(j)(1)(A) of the Export Administration Act of 1979 (50 U.S.C. App. 2405(j)(i)(A)), to be a country the government of which has repeatedly provided support for such acts of international terrorism. As of the date of this provision, terrorist countries include: Cuba, Iran, Iraq, Libya, North Korea, Sudan, and Syria.

(3) "Significant interest" means --

(i) Ownership of or beneficial interest in 5 percent or more of the firm's or subsidiary's securities. Beneficial interest includes holding 5 percent or more of any class of the firm's securities in "nominee shares," "street names," or some other method of holding securities that does not disclose the beneficial owner;

(ii) Holding a management position in the firm, such as a director or officer;

(iii) Ability to control or influence the election, appointment, or tenure of directors or officers in the firm;

(iv) Ownership of 10 percent or more of the assets of a firm such as equipment, buildings, real estate, or other tangible assets of the firm; or

(v) Holding 50 percent or more of the indebtness of a firm.

(b) "Prohibition on award."

In accordance with 10 U.S.C. 2327, no contract may be awarded to a firm or a subsidiary of a firm if the government of a terrorist country has a significant interest in the firm or subsidiary or, in the case of a subsidiary, the firm that owns the subsidiary, unless a waiver is granted by the Secretary of Defense.

(c) "Disclosure."

If the government of a terrorist country has a significant interest in the Offeror or a subsidiary of the Offeror, the Offeror shall disclosure such interest in an attachment to its offer. If the Offeror is a subsidiary, it shall also disclose any significant interest the government of a terrorist country has in any firm that owns or controls the subsidiary. The disclosure shall include --

(1) Identification of each government holding a significant interest; and

(2) A description of the significant interest held by each government.

(End of provision)

252.209-7003 COMPLIANCE WITH VETERANS' EMPLOYMENT REPORTING REQUIREMENTS (MAR 1998)

By submission of its offer, the offeror represents that, if it is subject to the reporting requirements of 37 U.S.C. 4212(d) (i.e., the VETS-100 report required by Federal Acquisition Regulation clause 52.222-37, Employment Reports on Disabled Veterans and Veterans of the Vietnam Era), it has submitted the most recent report required by 38 U.S.C. 4212(d).

252.225-7017   PROHIBITION ON AWARD TO COMPANIES OWNED BY THE PEOPLE'S REPUBLIC OF CHINA (FEB 2000)

(a) Definition. "People's Republic of China," as used in this provision, means the government of the People's Republic of China, including its political subdivisions, agencies, and instrumentalities.

(b) Prohibition on award. Section 8120 of the Department of Defense Appropriations Act for fiscal year 1999 (Pub. L. 105-262), as amended by Section 144 of Title I, Division C, of the Omnibus Consolidated and Emergency Supplemental Appropriations Act, 1999 (Pub. L. 105-277), prohibits the award of a contract under this solicitation to any company in which the Director of Defense Procurement (Office of the Under Secretary of Defense (Acquisition, Technology, and Logistics)) has determined that the People's Republic of China or the People's Liberation Army of the People's Republic of China owns more than 50 percent interest.

(c) Representation. By submission of an offer, the offeror represents that the People's Republic of China or the People's Liberation Army of the People's Republic of China does not own more than 50 percent interest in the offeror.

(End of provision)

252.225-7031   SECONDARY ARAB BOYCOTT OF ISRAEL (JUN 1992)

(a) Definitions. As used in this clause--

(1) "Foreign person" means any person other than a United States person as defined in Section 16(2) of the Export Administration Act of 1979 (50 U.S.C. App. Sec 2415).

(2) "United States person" is defined in Section 16(2) of the Export Administration Act of 1979 and means any United States resident or national (other than an individual resident outside the United States and employed by other than a United States person), any domestic concern (including any permanent domestic establishment of any foreign concern), and any foreign subsidiary or affiliate (including any permanent foreign establishment) of any domestic concern which is controlled in fact by such domestic concerns, as determined under regulations of the President.

(b) Certification. By submitting this offer, the Offeror, if a foreign person, company or entity, certifies that it--

(1) Does not comply with the Secondary Arab Boycott of Israel; and

(2) Is not taking or knowingly agreeing to take any action, with respect to the Secondary Boycott of Israel by Arab countries, which 50 U.S.C. App. Sec 2407(a) prohibits a United States person from taking.

(End of clause)

252.227-7028   TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT (JUN 1995)

The Offeror shall attach to its offer an identification of all documents or other media incorporating technical data or computer software it intends to deliver under this contract with other than unlimited rights that are identical or substantially similar to documents or other media that the Offeror has produced for, delivered to, or is obligated to deliver to the Government under any contract or subcontract. The attachment shall identify--

(a) The contract number under which the data or software were produced;

(b) The contract number under which, and the name and address of the organization to whom, the data or software were most recently delivered or will be delivered; and

(c) Any limitations on the Government's rights to use or disclose the data or software, including, when applicable, identification of the earliest date the limitations expire.

(End of clause)

252.247-7022   REPRESENTATION OF EXTENT OF TRANSPORTATION BY SEA (AUG 1992)

(a) The Offeror shall indicate by checking the appropriate blank in paragraph (b) of this provision whether transportation of supplies by sea is anticipated under the resultant contract. The term supplies is defined in the Transportation of Supplies by Sea clause of this solicitation.

(b) Representation. The Offeror represents that it:

_____ (1) Does anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

_____ (2) Does not anticipate that supplies will be transported by sea in the performance of any contract or subcontract resulting from this solicitation.

(c) Any contract resulting from this solicitation will include the Transportation of Supplies by Sea clause. If the Offeror represents that it will not use ocean transportation, the resulting contract will also include the Defense FAR Supplement clause at 252.247-7024, Notification of Transportation of Supplies by Sea.

(End of provision)

COMMERCIAL AND GOVERNMENT ENTITY (CAGE) CODE

       As requested in the DFARS Provision 252.204-7001, CAGE Code Reporting, the Bidder/Offeror's CAGE Code is _____.

DUNS NUMBER

       The Offeror's nine digit DUNS number is _____. See the provision at 52.204-6 for completion instructions.

MILITARY SECURITY REQUIREMENTS

       A maximum security clearance of SECRET will be required of the successful Offeror prior to the issuance of any contract. The Offeror is to state below its security clearance and the name and address of the cognizant security office.

SECURITY CLEARANCE:_____ COGNIZANT SECURITY OFFICE & POC:

                                      _____
                                      _____
                                      _____
                                      _____

OFFEROR'S FACSIMILE NUMBER (FAX)

       The offeror's FAX number is _____.

CENTRAL CONTRACTORS REGISTRY (CCR)

   For solicitations issued after 31 March 1998, in order to be eligible for award of a Government contract, the successful offeror/bidder must be registered in the CCR. Registration will be verified by the Contracting Officer prior to award. Failure to be registered at the time the Government is ready to make an award may cause rejection of the offer/bid. For further information and registration, access http://www.ccr2000.com . The Offeror/Bidder is (   ) is not (   ) registered at this time.

SECTION L Instructions, Conditions and Notices to Bidders

CLAUSES INCORPORATED BY REFERENCE:

52.204-6	Data Universal Numbering System (DUNS) Number	JUN 1999
52.215-1 Alt I	Instructions to Offerors--Competitive Acquisition (Feb 2000) - Alternate I	OCT 1997
52.215-16	Facilities Capital Cost of Money	OCT 1997
52.222-24	Preaward On-Site Equal Opportunity Compliance Evaluation	FEB 1999
52.222-46	Evaluation Of Compensation For Professional Employees	FEB 1993
52.237-1	Site Visit	APR 1984
252.204-7001	Commercial And Government Entity (CAGE) Code Reporting	AUG 1999

CLAUSES INCORPORATED BY FULL TEXT

52.211-14   NOTICE OF PRIORITY RATING FOR NATIONAL DEFENSE USE (SEP 1990)

Any contract awarded as a result of this solicitation will be _____ DX rated order; __X__ DO rated order certified for national defense use under the Defense Priorities and Allocations System (DPAS) (15 CFR 700), and the Contractor will be required to follow all of the requirements of this regulation. [Contracting Officer check appropriate box.]

(End of clause)

52.215-20   REQUIREMENTS FOR COST OR PRICING DATA OR INFORMATION OTHER THAN COST OR PRICING DATA (OCT 1997)

(a) Exceptions from cost or pricing data. (1) In lieu of submitting cost or pricing data, offerors may submit a written request for exception by submitting the information described in the following subparagraphs. The Contracting Officer may require additional supporting information, but only to the extent necessary to determine whether an exception should be granted, and whether the price is fair and reasonable.

(i) Identification of the law or regulation establishing the price offered. If the price is controlled under law by periodic rulings, reviews, or similar actions of a governmental body, attach a copy of the controlling document, unless it was previously submitted to the contracting office.

(ii) Commercial item exception. For a commercial item exception, the offeror shall submit, at a minimum, information on prices at which the same item or similar items have previously been sold in the commercial market that is adequate for evaluating the reasonableness of the price for this acquisition. Such information may include--

(A) For catalog items, a copy of or identification of the catalog and its date, or the appropriate pages for the offered items, or a statement that the catalog is on file in the buying office to which the proposal is being submitted. Provide a copy or describe current discount policies and price lists (published or unpublished), e.g., wholesale, original equipment manufacturer, or reseller. Also explain the basis of each offered price and its relationship to the established catalog price, including how the proposed price relates to the price of recent sales in quantities similar to the proposed quantities;

(B) For market-priced items, the source and date or period of the market quotation or other basis for market price, the base amount, and applicable discounts. In addition, describe the nature of the market;

(C) For items included on an active Federal Supply Service Multiple Award Schedule contract, proof that an exception has been granted for the schedule item.

(2) The offeror grants the Contracting Officer or an authorized representative the right to examine, at any time before award, books, records, documents, or other directly pertinent records to verify any request for an exception under this provision, and the reasonableness of price. For items priced using catalog or market prices, or law or regulation, access does not extend to cost or profit information or other data relevant solely to the offeror's determination of the prices to be offered in the catalog or marketplace.

(b) Requirements for cost or pricing data. If the offeror is not granted an exception from the requirement to submit cost or pricing data, the following applies:

(1) The offeror shall prepare and submit cost or pricing data and supporting attachments in accordance with Table 15-2 of FAR 15.408.

As soon as practicable after agreement on price, but before contract award (except for unpriced actions such as letter contracts), the offeror shall submit a Certificate of Current Cost or Pricing Data, as prescribed by FAR 15.406-2.

(End of provision)

52.216-1   TYPE OF CONTRACT (APR 1984)

The Government contemplates award of a Indefinite Quantity Indefinite Delivery (IDIQ) contract resulting from this solicitation.

(End of clause)

52.233-2   SERVICE OF PROTEST (AUG 1996)

(a) Protests, as defined in section 33.101 of the Federal Acquisition Regulation, that are filed directly with an agency, and copies of any protests that are filed with the General Accounting Office (GAO), shall be served on the Contracting Officer (addressed as follows) by obtaining written and dated acknowledgment of receipt from:

US Army Robert Morris Acquisition Center
ATTN: Patricia J. Fox, Contracting Officer, AMSSB-ACR
4300 S. Miami Blvd.
Durham, NC 27703

(b) The copy of any protest shall be received in the office designated above within one day of filing a protest with the GAO.

(End of provision)

52.252-1   SOLICITATION PROVISIONS INCORPORATED BY REFERENCE (FEB 1998)

This solicitation incorporates one or more solicitation provisions by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. The offeror is cautioned that the listed provisions may include blocks that must be completed by the offeror and submitted with its quotation or offer. In lieu of submitting the full text of those provisions, the offeror may identify the provision by paragraph identifier and provide the appropriate information with its quotation or offer. Also, the full text of a solicitation provision may be accessed electronically at this/these address(es):

DFAR
http://FARSITE.HILL.AF.MIL/Vfdfar1.htm

FAR
http://www.arnet.gov/far/

52.252-5   AUTHORIZED DEVIATIONS IN PROVISIONS (APR 1984)

(a) The use in this solicitation of any Federal Acquisition Regulation (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of"(DEVIATION)" after the date of the provision.

The use in this solicitation of any FAR (48 CFR Chapter 1) provision with an authorized deviation is indicated by the addition of "(DEVIATION)" after the name of the regulation.

EXCEPTIONS OR CONDITIONS CONTAINED IN OFFEROR'S PROPOSAL

In the event the offeror takes any exceptions to, or sets any conditions for its proposal under the subject solicitation, such exceptions or conditions shall be set forth in a cover letter to the offeror's proposal.

DEBRIEFING OF UNSUCCESSFUL OFFERORS

Proposals in response to this solicitation will be evaluated as set forth in Section M hereof. Any contract awarded as a result of this solicitation may be on a basis other than lowest price. After award is made, the Contracting Officer will provide a debriefing of unsuccessful offerors, upon their written request, to furnish the basis for the selection decision and contract award. (See FAR 15.506.)

SUBCONTRACTING PLAN FOR SMALL, SMALL DISADVANTAGED AND WOMEN-OWNED SMALL BUSINESS CONCERNS (APPLIES LARGE BUSINESSES AND EDUCATIONAL INSTITUTIONS ONLY)

Offerors shall submit with their proposal a Subcontracting Plan for Small, Small Disadvantaged and Women-Owned Small Business Concerns. The plan shall conform to FAR 19.704. The proposed plan and goals will be negotiated with all offerors determined to be within the competitive range. At the time of award, the plan will be incorporated into and made a material part of the contract. Offerors who qualify as a Small, Small Disadvantaged or Women-Owned Small Business under the terms of this solicitation may disregard this provision.

It is the Army's policy that subcontracting plans required by FAR 19.702(a)(1) and (2) have realistic, challenging, achievable and positive percentage and dollar goals for subcontracting with small business (SB) concerns, small disadvantaged business (SDB) concerns, historically black colleges and universities (HBCU) and minority institutions (MI), HUBZONE small businesses, and veteran-owned small businesses.

When the offeror prepares its subcontracting plan it may choose to review AFARS, Appendix CC subcontracting plan evaluation guide (http://acqnet.sarda.army.mil/library/zpafar.htm).

For informational purposes only, the following lists minimum Small Business Administration small business program subcontracting goals which are required to be met by large businesses who submit subcontracting plans.

Business Size Category	% of Subcontracted Dollars
Small Business	23%
Small Disadvantaged Business (Includes HBCU/MIs	5%
Small Woman-Owned Business	5%
HUBZONE Small Business	2.5%
Veteran-owned Small business	3%

Subcontracting plans submitted, along with any supporting rationale will be evaluated in accordance with Section M.

AVAILABILITY OF FUNDS (AFARS 1.602-2-90(c))

Funding in the amount of $16.5 M is currently available for the acquisition, installation and integration of novel HPC resources as set forth in Representative Task Order 6.

No other funds are presently available for this acquisition. No contract award will be made until appropriated funds are made available from which payment for contract purposes can be made.

Funding in the amount of $1.2M for the Operation and Maintenance of the HPC resources as set forth in Representative Tasks 3 and 4 is included in ARL's financial plan for FY2003.

At the time of issuance of this solicitation, the House of Representatives version of the FY 2003 DoD Appropriations Bill includes supplemental funding for the AHPCRC budget. In an effort to adjust to the budgetary uncertainties and maintain the continuity of this program, this solicitation includes Representative Tasks based on supplemental funding consistent with last year's spending levels and supplemental funding for this program.

PROPOSAL PREPARATION AND SUBMISSION

A. General.

1. Proposals must be submitted according to the instructions contained herein. There will be NO electronic submission of proposals in connection with this solicitation. (However, see the proposal content instructions for the Cost Volume as some information concerning cost is requested in both hard copy and electronic media.)

2. Offerors shall submit their proposal(s) to the following addresses:

> U.S. Army Materiel Command Acquisition Center
> Research Triangle Park Division
> ATTN: AMSSB-ACR (Patricia J. Fox)
> 4300 S. Miami Blvd.
> Durham, NC 27703

3. Each proposal shall consist of the following:

Proposal Cover Sheet (Attachment No. 14)	Original and 1 copy
Technical/Management Volume	Original and 10 copies
Cost Volume	Original and 5 copies (and 1 electronic copy)
Any exceptions, conditions, or comments	Original and 1 copy

B. **Technical/Management Volume.**

Contents of the Technical/Management volume shall detail the proposed. All pages included in the Technical Volume shall be numbered. **Offerors are advised that the Technical/Management Volume of the proposal shall not exceed 60 pages, utilizing one side of the page.** The Technical/Management Volume is to be divided into 6 Chapters with page limits as follows:

- Chapter 1 – Operation, Maintenance and HPC Support to include the Staff Scientist Program and technical proposal for the efforts under Representative Tasks 1-5 (20 pages total)
- Chapter 2 – Management (10 pages)
- Chapter 3 – Ability to Identify, Acquire and Integrate Novel/New HPC Hardware/Software to include the technical proposal for the efforts under Representative Task 6 (10 pages total)
- Chapter 4 – Plan for Technology Exchange, Education, Outreach and Workshops to include the technical proposal for the effort under Representative Task 7 (10 pages total)
- Chapter 5 – Plan for Small Business, Small Disadvantaged Business and HBCU/MI Participation (5 pages)
- Chapter 6 – Past Performance (5 pages + the responses to the Past Performance Surveys submitted by the offeror's customer organizations)

The 60 page maximum does not include biographical sketches for key personnel. Biographical sketches shall be limited to two (2) pages per person and should be included at the end of the appropriate chapter. Offerors are cautioned that pages in excess of the 60 page limitation, and pages in excess of the 2 page limitation for the Biographical Sketches, will not be included in the evaluation.

C. **Cost Volume.**

Contents of the Cost Proposal include a breakdown of costs proposed for each Representative Task Order included in the solicitation. The Cost Proposal is also to be divided into Chapters, one for each Representative Task Order. See "**INSTRUCTIONS FOR SUBMITTING COST/PRICE PROPOSALS WHEN COST OR PRICING DATA ARE REQUIRED**" concerning the required breakdown of costs. Cost information is requested in hard copy and one copy in an electronic version. All spreadsheets submitted shall be compatible with Microsoft Office 97 Suite/Excel. (No hidden formulas are permitted.)

D. **Administrative.**

1. **Proposal Information.** The entire proposal should be concise, utilizing one side of the page with no fold-out pages. Each proposal must be typed (no type smaller than 11 point or 12 pitch on standard 8 1/2" X 11" paper with one (1) inch margins, 6 lines per inch).

2. **Bindings.** Proposals should be adequately bound in a manner which allows for ease in separation by chapters to facilitate the evaluation process. Separately bound volumes shall be submitted for the Technical/Management Volume and the Cost Volume.

CONTENT OF TECHNICAL/MANAGEMENT PROPOSAL

In connection with Chapter 1, Evaluation Factor 1, the following is requested:

Factor 1a. Operation, Maintenance and HPC Support

- The offeror's plan to staff, operate, maintain and support a high performance computing (HPC) environment that satisfies the requirements of the Army High Performance Computing Research Center (AHPCRC) research program and the requirements of the Army and DoD Science and Technology community as stated in the Statement of Work (SOW).   This includes the comprehensiveness and adequacy of the proposed support infrastructure services, to include hardware maintenance, software maintenance, standard operating procedures, visualization tools, and adequacy in dealing with problem escalation procedures.

- The offeror's operations and staffing plan, with enough detail to allow the government to feel secure in the offeror's ability to execute the contract over its life. This includes the proposed system administration, scheduling, queuing and accounting, networking and communication capabilities to include ability to connect to the Defense Research and Engineering Network (DREN). Provide a list of software and its function to operate, maintain (debug in case of failure) and support researcher on the systems including queuing, scheduling, accounting, networking, visualization, etc.

  - Demonstration of the offeror's understanding of DoD and Army security requirements and the comprehensiveness and adequacy of the proposed security policies, procedures and their implementation.

  - The Offeror's plan for the Kerberos requirement and related Security requirements as specified in the solicitation.

- Provide a technical proposal in response to Representative Tasks 1-4 which will include at a minimum, the following:

  - A plan for the site, identifying the location, site facilities, and site footprint that will be dedicated to the HPC equipment, along with all necessary features including air conditioning, power, security, UPS and Archiving System

  - A plan for transitioning the storage of archival data including how the integrity of the existing archival files will be assured and how compatibility of transitioned archival data with the new environment will be assured

  - Standard Operating Procedures (SOP) to operate, maintain and support all sites specified under this solicitation on a 24x7 basis (or some reduced basis) for: normal operation, an operation where a significant hardware failure occurred and an operation where a significant software failure occurred

  - A plan for creating a T-1 network interconnecting the HPC resources at the Core Site and all organizations represented under the AHPCRC cooperative agreement

Factor 1b. Development and Execution of the Staff Scientist Program

- The offeror's proposed plan to staff and conduct a Staff Scientist Program (SSP) that supports the AHPCRC Cooperative Agreement (CA) to include recruitment plans.

- The offeror's proposed Staff Scientist's skill levels, education level, technical disciplines and a description of the extent to which the proposed directly complement the research content in the cooperative agreement.

- The offeror's plan to be co-locate and integrate the Staff Scientists with scientists at Army installations.

    - The offeror's plan for how research support activities and technology transfer will occur between the Staff Scientists and Army researchers

    - Provide a technical proposal in response to Representative Task 5

In connection with Chapter 2, Evaluation Factor 2, the following is requested:

- The offeror's overall management plan for execution of the entire effort, including the plan for tracking resources, the overall management (business) plan, and internal management team structure and composition.

- The offeror's overall business plan for internal management, tracking resources, as well as programmatic, technical, financial and administrative matters.

- The offeror's plan for tracking funding expenditures and invoicing on a monthly basis.

In connection with Chapter 3, Evaluation Factor 3, the following is requested:

- The offeror's plan to identify, procure and integrate a high performance computing (HPC) environment that satisfies the requirements of the Army High Performance Computing Research Center (AHPCRC) research program and the requirements of the Army and DoD Science and Technology community .

- The offorer's proposed plans/methods for identification, selection, acquisition, delivery of promising, new and novel HPC architectures, site preparation, installation, integration of the HPC resources with minimal technical risk and minimal disruption of availability of HPC resources to the AHPCRC users and consistent with the funding resources.

- Provide a technical proposal in response to Representative Task 6. This proposal should include the specific HPC resources to be acquired under this task and the proposed testing to confirm that the system is operating properly when installed and integrated into the existing HPC resources.

In connection with Chapter 4, Evaluation Factor 4, the following is requested:

- The offeror's plan to ensure that Army, university and AHPCRC HPC users have continuing access to the unique resources of the AHPCRC's HPC environment and to promote technology exchange and educational outreach.

- The offeror's plan to utilize the educational and research capabilities of partner institutions involved in investigating areas in computing which are of special interest to the Army and the ability to create an infrastructure for technology transfer and training for Army researchers and their partner institutions utilizing HPC assets.

- The offeror's plan for educational and outreach including the Summer Institutes to encourage students to pursue higher education degrees and careers in science and engineering. This includes the offeror's plans to provide teaching and administrative support for the Summer Institute.

- The offeror's plan to support workshops.

- The offeror's plan to promote technology exchange and training between the Staff Scientists, local Army on-site researchers and the partner institutions

- The offeror's plan to accelerate technology exchange between academia, Government and industry in the use of high performance computing applications

- Provide a technical proposal in response to Representative Task 7

In connection with Chapter 5, Evaluation Factor 5, the following is requested:

- Provide a plan to identify and commit the utilization of Small Businesses (SB), Small Disadvantaged Businesses (SDB), Small Woman-Owned Businesses (SWOB), Historically Underutilized Business Zone (HUBZONE) firms, and Minority Serving Institutions (MSIs) under the proposed effort as evidenced by the following elements:

    - The extent to which such firms are specifically identified in proposals.
    - The extent of commitment to use such firms.
    - The complexity and variety of the work such firms are to perform.
    - The Offeror's past performance in complying with the requirements of the clauses at FAR 52.219-8, FAR 52.219-9 and DFARS 252.219-7004.
    - The extent of participation of such firms in terms of the value of the total acquisition.

All Offerors (except for small businesses) are required to submit a Subcontracting Plan in accordance with FAR 52.219-9 and DFARS 252.219-7004, which is to reflect the elements listed above. The offeror's Subcontracting Plan must be acceptable for the Offeror to be eligible for award.

In connection with Chapter 6, Evaluation Factor 6, the following is requested:

- Offerors are to submit a listing of the last three (3) contracts and/or subcontracts (for the same or similar services) awarded to your company, which are at least 50% complete. More reliance will be given to: performance on contracts of a similar nature than those that are less similar; performance on prior agency or federal contracts than on those with state or local governments or private parties; and performance on more recent contracts than that on older contracts. Offerors without prior contracts experience should list contracts and subcontracts as required above for all key personnel. Include the following information for each of the three contracts and subcontracts or more within your technical proposal you submit to the Government:

Requiring Organization Name:
a. Contract number:
b. Type of Contract:
c. Contract Period of Performance:
d. Total dollar Amount of Contract
e. Administrative Contracting Officer and Telephone Number:
f. List of Major Subcontractors:
g. Brief Description of Contract:

Customer Organization:
a. Requiring Organization POC:
b. Address:
c. Telephone Number:
d. Fax Number:
e. Email Address:

- The offeror may provide information on problems encountered on the contracts and subcontracts identified above and corrective actions taken to resolve those problems. Offerors should not provide general information on their performance on the identified contracts. General performance information will be obtained from the references.

- The offeror may describe any quality awards or certifications that indicate the offeror possesses a high-quality process for developing and producing the product or service required. Identify what segment of the company (one division or the entire company) received the award or certification. Describe when the award or certification was bestowed. If the award or certification is over three years old, present evidence that the qualifications still apply.

- The offeror is responsible to insure timely submission of the completed past performance surveys designated as an Attachment to Section J. If surveys are not received by the proposal due date it will affect the evaluation of the offeror's proposal. The offeror shall completed Part A of the survey and forward on to the person at the customer organization for completion of Part B and final submission. Offerors are encouraged to process their surveys with customers via email using a .doc attachment. Otherwise, customers may submit surveys via fax, email or US mail. It is imperative that the customer organization completing Part B of this questionnaire return the questionnaire no later than the proposal due date to the US Army Robert Morris Acquisition Center, Attn: Mr. Richard Burkes/AMSSB-ACR, 4300 S. Miami Blvd., Durham, NC 27703; Fax 919-549-4388; or email burkesrc@arl.armo.army.mil.

- Each offeror will be evaluated on its performance under existing and prior contracts for similar products or services. Performance information will be used in responsibility determinations and as an evaluation factor in determining the best value to the Government. The Government will focus on information that demonstrates quality of performance relative to the size and complexity of the procurement under consideration. References other than those identified by the offeror may be contacted by the Government, with the information received to be used in the evaluation of the offeror's past performance.

INSTRUCTIONS FOR SUBMITTING COST/PRICE PROPOSALS WHEN COST OR PRICING DATA ARE REQUIRED

This paragraph provides instructions for preparing a contract pricing proposal when cost or pricing data are required.

Note 1: There is a clear distinction between submitting cost or pricing data and merely making available books, records, and other documents without identification. The requirement for submission of cost or pricing data is met when all accurate cost or pricing data reasonably available to the offeror have been submitted, either actually or by specific identification, to the Contracting Officer or an authorized representative. As later information comes into your possession, it should be submitted promptly to the Contracting Officer in a manner that clearly shows how the information relates to the offeror's price proposal. The requirement for submission of cost or pricing data continues up to the time of agreement on price, or an earlier date agreed upon between the parties if applicable.

Note 2: By submitting your proposal, you grant the Contracting Officer or an authorized representative the right to examine records that formed the basis for the pricing proposal. That examination can take place at any time before award. It may include those books, records, documents, and other types of factual information (regardless of form or whether the information is specifically referenced or included in the proposal as the basis for pricing) that will permit an adequate evaluation of the proposed price.

I. General Instructions

A. You must provide the following information on the first page of your pricing proposal:

(1) Solicitation, contract, and/or modification number;

(2) Name and address of offeror;

(3) Name and telephone number of point of contact;

(4) Name of contract administration office (if available);

(5) Type of contract action (that is, new contract, change order, price revision/re-determination, letter contract, unpriced order, or other);

(6) Proposed cost; profit or fee; and total;

(7) Whether you will require the use of Government property in the performance of the contract, and, if so, what property;

(8) Whether your organization is subject to cost accounting standards; whether your organization has submitted a CASB Disclosure Statement, and if it has been determined adequate; whether you have been notified that you are or may be in noncompliance with your Disclosure Statement or CAS, and, if yes, an explanation; whether any aspect of this proposal is inconsistent with your disclosed practices or applicable CAS, and, if so, an explanation; and whether the proposal is consistent with your established estimating and accounting principles and procedures and FAR Part 31, Cost Principles, and, if not, an explanation;

(9) The following statement: This proposal reflects our estimates and/or actual costs as of this date and conforms with the instructions in FAR 15.403-5(b)(1) and Table 15-2. By submitting this proposal, we grant the Contracting Officer and authorized representative(s) the right to examine, at any time before award, those records, which include books, documents, accounting procedures and practices, and other data, regardless of type and form or whether such supporting information is specifically referenced or included in the proposal as the basis for pricing, that will permit an adequate evaluation of the proposed price.

(10) Date of submission; and

(11) Name, title and signature of authorized representative.

B. In submitting your proposal, you must include an index, appropriately referenced, of all the cost or pricing data and information accompanying or identified in the proposal. In addition, you must annotate any future additions and/or revisions, up to the date of agreement on price, or an earlier date agreed upon by the parties, on a supplemental index.

C. As part of the specific information required, you must submit, with your proposal, cost or pricing data (that is, data that are verifiable and factual and otherwise as defined at FAR 15.401). You must clearly identify on your cover sheet that cost or pricing data are included as part of the proposal. In addition, you must submit with your proposal any information reasonably required to explain your estimating process, including--

(1) The judgmental factors applied and the mathematical or other methods used in the estimate, including those used in projecting from known data; and

(2) The nature and amount of any contingencies included in the proposed price.

D. You must show the relationship between contract line item prices and the total contract price. You must attach cost-element breakdowns for each proposed line item, using the appropriate format prescribed in the "Formats for Submission of Line Item Summaries" of FAR Table 15-2. You must furnish supporting breakdowns for each cost element, consistent with your cost accounting system.

E. When more than one contract line item is proposed, you must also provide summary total amounts covering all line items for each element of cost.

F. Whenever you have incurred costs for work performed before submission of a proposal, you must identify those costs in your cost/price proposal.

G. If you have reached an agreement with Government representatives on use of forward pricing rates/factors, identify the agreement, include a copy, and describe its nature.

H. As soon as practicable after final agreement on price or an earlier date agreed to by the parties, but before the award resulting from the proposal, you must, under the conditions stated in FAR 15.406-2, submit a Certificate of Current Cost or Pricing Data.

II. Cost Elements

Depending on your system, you must provide breakdowns for the following basic cost elements, as applicable:

A. Materials and services. Provide a consolidated priced summary of individual material quantities included in the various tasks, orders, or contract line items being proposed and the basis for pricing (vendor quotes, invoice prices, etc.). Include raw materials, parts, components, assemblies, and services to be produced or performed by others. For all items proposed, identify the item and show the source, quantity, and price. Conduct price analyses of all subcontractor proposals. Conduct cost analyses for all subcontracts when cost or pricing data are submitted by the subcontractor. Include these analyses as part of your own cost or pricing data submissions for subcontracts expected to exceed the appropriate threshold in FAR 15.403-4. Submit the subcontractor cost or pricing data as part of your own cost or pricing data as required in paragraph IIA(2) of this table. These requirements also apply to all subcontractors if required to submit cost or pricing data.

(1) Adequate Price Competition. Provide data showing the degree of competition and the basis for establishing the source and reasonableness of price for those acquisitions (such as subcontracts, purchase orders, material order, etc.) exceeding, or expected to exceed, the appropriate threshold set forth at FAR 15.403-4 priced on the basis of adequate price competition. For interorganizational transfers priced at other than the cost of comparable competitive commercial work of the division, subsidiary, or affiliate of the contractor, explain the pricing method (see FAR 31.205-26(e)).

(2) All Other. Obtain cost or pricing data from prospective sources for those acquisitions (such as subcontracts, purchase orders, material order, etc.) exceeding the threshold set forth in FAR 15.403-4 and not otherwise exempt, in accordance with FAR 15.403-1(b) (i.e., adequate price competition, commercial items, prices set by law or regulation or waiver). Also provide data showing the basis for establishing source and reasonableness of price. In addition, provide a summary of your cost analysis and a copy of cost or pricing data submitted by the prospective source in support of each subcontract, or purchase order that is the lower of either $10,000,000 or more, or both more than the pertinent cost or pricing data threshold and more than 10 percent of the prime contractor's proposed price. The Contracting Officer may require you to submit cost or pricing data in support of proposals in lower amounts. Subcontractor cost or pricing data must be accurate, complete and current as of the date of final price agreement, or an earlier date agreed upon by the parties, given on the prime contractor's Certificate of Current Cost or Pricing Data. The prime contractor is responsible for updating a prospective subcontractor's data. For standard commercial items fabricated by the offeror that are generally stocked in inventory, provide a separate cost breakdown, if priced based on cost. For inter-organizational transfers priced at cost, provide a separate breakdown of cost elements. Analyze the cost or pricing data and submit the results of your analysis of the prospective source's proposal. When submission of a prospective source's cost or pricing data is required as described in this paragraph, it must be included along with your own cost or pricing data submission, as part of your own cost or pricing data. You must also submit any other cost or pricing data obtained from a subcontractor, either actually or by specific identification, along with the results of any analysis performed on that data.

B. Direct Labor. Provide a time-phased (e.g., monthly, quarterly, etc.) breakdown of labor hours, rates, and cost by appropriate category, and furnish bases for estimates.

C. Indirect Costs. Indicate how you have computed and applied your indirect costs, including cost breakdowns. Show trends and budgetary data to provide a basis for evaluating the reasonableness of proposed rates. Indicate the rates used and provide an appropriate explanation.

D. Other Costs. List all other costs not otherwise included in the categories described above (e.g., special tooling, travel, computer and consultant services, preservation, packaging and packing, spoilage and rework, and Federal excise tax on finished articles) and provide bases for pricing.

E. Royalties. If royalties exceed $1,500, you must provide the following information on a separate page for each separate royalty or license fee:

(1) Name and address of licensor.

(2) Date of license agreement.

(3) Patent numbers.

(4) Patent application serial numbers, or other basis on which the royalty is payable.

(5) Brief description (including any part or model numbers of each contract item or component on which the royalty is payable).

(6) Percentage or dollar rate of royalty per unit.

(7) Unit price of contract item.

(8) Number of units.

(9) Total dollar amount of royalties.

(10) If specifically requested by the Contracting Officer, a copy of the current license agreement and identification of applicable claims of specific patents (see FAR 27.204 and 31.205- 37).

F. Facilities Capital Cost of Money. When you elect to claim facilities capital cost of money as an allowable cost, you must submit Form CASB-CMF and show the calculation of the proposed amount (see FAR 31.205-10).

AMC-LEVEL PROTEST PROGRAM

If you have complaints about this procurement, it is preferable that you first attempt to resolve those concerns with the responsible contracting officer. However, you can also protest to Headquarters, AMC. The HQ, AMC-Level Protest Program is intended to encourage interested parties to seek resolution of their concerns within AMC as an Alternative Dispute Resolution forum, rather than filing a protest with the General Accounting Office or other external forum. Contract award or performance is suspended during the protest to the same extent, and within the same time periods, as if filed at the GAO. The AMC protest decision goal is to resolve protests within 20 working days from filing. To be timely, protests must be filed within the periods specified in FAR 33.103. Send protests (other than protests to the contracting officer) to:

> HQ Army Material Command
> Office of Command Counsel
> ATTN: AMCCC-PL
> 5001 Eisenhower Avenue
> Alexandria, VA 22333-0001
>
> Facsimile number (703) 617-4999/5680
> Voice number (703) 617-8176

The AMC-level protest procedures are found at:

> http://amc.citi.net/amc/cc/protest.html

If Internet access is not available, contact the contracting officer or HQ, AMC to obtain the AMC-Level Protest Procedures.

SECTION M Evaluation Factors for Award

EVALUATION OF PROPOSALS

      a. Formal Source Selection Procedures will be used in connection with this solicitation. The Selection Team will consist of a Source Selection Evaluation Board (SSEB) and a Source Selection Authority (SSA.)

      b. All information necessary for the review and evaluation of a proposal must be contained in the technical/management and cost volumes of the proposal. No other material will be provided to the evaluators. Each proposal will be evaluated based on the merit and relevance of the specific research proposed as it relates to the PA requirements.

      c. A government evaluation team will review and evaluate the proposals in accordance with the guidelines set forth in this section. Proposals will be reviewed, evaluated and scored by evaluators, who will use a color and adjectival rating scheme to assist in rating proposals received. Significant deficiencies which cause scores less than acceptable on individual factors may be used as a basis for eliminating a proposal from further consideration. The objective of this evaluation is to determine which proposals offer the best value to the Government, cost and other factors considered.

      d. Offerors are urged to insure that their proposal reflect their best possible position. An initial proposal which does not reflect the offeror's optimum potential could result in the proposal's exclusion from further consideration. This is crucial, since the government intends to establish a "competitive range" for negotiation purposes, or possibly award without discussions, based upon the initial proposals submitted.

      e. The Army, at its discretion, may visit proposed sites during the evaluation phase to verify information contained in the proposals. Any site visits will be coordinated with the offerors at the appropriate time.

EVALUATION FACTORS

Factor 1 – Operation, Maintenance and HPC Support to include Staff Scientist Program

      Evaluation of this factor includes the evaluation of the following:

            a. Operation, Maintenance and HPC Support

            Evaluation of this factor includes evaluation of the offeror's plan to staff, operate, maintain and support a high performance computing (HPC) environment that satisfies the requirements of the Army High Performance Computing Research Center (AHPCRC) research program and the requirements of the Army and DoD Science and Technology community as stated in the Statement of Work (SOW). This includes the comprehensiveness and adequacy of the proposed support infrastructure services, to include hardware maintenance, software maintenance, standard operating procedures, visualization tools, and adequacy in dealing with problem escalation procedures. The Offeror shall include an operations and staffing plan, with enough detail to allow the government to feel secure in the offeror's ability to execute the contract over its life. Evaluation of this factor also includes evaluation of the adequacy of the proposed system administration, including scheduling, queuing and accounting, networking and communication capabilities to include ability to connect to the Defense Research and Engineering Network (DREN). Evaluation of this factor also includes evaluation of the offeror's understanding of DoD and Army security requirements and the comprehensiveness and adequacy of the proposed security policies, procedures and their implementation. Offerors will be required to provide a plan for the Kerberos requirement and related Security requirements as specified in the solicitation. The offeror's response to the following representative task orders will also be included in the evaluation of this factor:

- <u>Representative Task 1</u>
- <u>Representative Task 2</u>
- <u>Representative Task 3</u>
- <u>Representative Task 4</u>

b. Development and Execution of the Staff Scientist Program

Evaluation of this factor includes evaluation of the Offeror's proposed plan to staff and conduct a Staff Scientist Program (SSP) that supports the AHPCRC Cooperative Agreement (CA). The current technical disciplines and focused research areas under the cooperative agreement are: (1) Projectile-target interaction, (2) Signature Modeling, (3) Chem-bio and atmospheric/environmental sciences, (4) Virtual Computing Environment, and (5) Enabling technologies and computational algorithms. Evaluation of this factor will also include evaluation of the composition of the proposed staff scientist's skill levels and technical disciplines and the extent to which the proposed directly complement the research content in the cooperative agreement. Evaluation of this factor will also include the offeror's plan to and ability to be mobile to directly collocate and integrate the Staff Scientists with scientists at Army installations. The offeror's response to the following representative task order will also be included in the evaluation of this factor:
- <u>Representative Task 5</u>

Factor 2 – Management

Evaluation of this factor will assess the proposed overall management plan for execution of the entire effort, including the plan for tracking resources, the overall management (business) plan, and internal management team structure and composition. The plan for tracking resources will be evaluated for the persistence of management attention to programmatic, technical, financial and administrative matters and the ability of the offeror to effectively track resources and objectives and to be able to highlight potential problems for management's attention. Timely disbursement of funds is important to the success of this program and shall be reflected as a critical part of the management plan. The offeror must submit a plan for tracking funding on a monthly basis. The offeror must plan to invoice not less frequently than monthly, and such invoices must be submitted within 30 days of the end of the month.

Factor 3 – Ability to Identify, Acquire and Integrate Novel/New HPC hardware/software

Evaluation of this factor includes the evaluation of the quality of the plan in which the Offeror proposes to identify, procure and integrate a high performance computing (HPC) environment that satisfies the requirements of the Army High Performance Computing Research Center (AHPCRC) research program and the requirements of the Army and DoD Science and Technology community as stated in the Statement of Work (SOW). Evaluation of this factor also includes the evaluation of the proposed plans/methods for identification, selection, acquisition, delivery of promising, new and novel HPC architectures, site preparation, installation, integration of the HPC resources with minimal technical risk and disruption of availability of HPC resources to the AHPCRC users and consistent with the funding resources. The offeror's response to the following representative task order will also be included in the evaluation of this factor:
- <u>Representative Task 6</u>

Factor 4 – Plan for Technology Exchange, Education, Outreach, and Workshops

Evaluation of this factor includes evaluation of the quality of the plan which ensures that Army, university and AHPCRC HPC users have continuing access to the unique resources of the AHPCRC's HPC environment and to promote technology exchange and educational outreach. Specific support efforts include (1) technology exchange between the Staff Scientists and local Army researchers; and(2) accelerating technology exchange between academia, Government and industry in the use of high performance computing applications. Evaluation of this factor also includes evaluation of the quality of the plan which utilizes the educational and research capabilities of partner institutions involved in investigating areas in computing which are of special interest to the Army and the ability to create an infrastructure for technology transfer and training for Army researchers and their partner institutions utilizing HPC assets. Evaluation of this factor also includes evaluation of the Offeror's plans to meet the requirements of the Statement of Work (SOW) for Summer Institutes and for Summer Intern Programs for undergraduates to encourage students to pursue higher education degrees and careers in science and engineering. Evaluation also includes the offeror's plans to provide teaching and administrative support for the Summer Institute. Evaluation of this factor also includes evaluation of the plan to support the workshops. The offeror's response to the following representative task order will also be included in the evaluation of this factor:
  - Representative Task 7

Factor 5 – Plan for Small Business, Small Disadvantaged Business and HBCU/MI Participation

Evaluation of this factor includes the extent to which the Offerors' identify and commit to the utilization of Small Businesses (SB), Small Disadvantaged Businesses (SDB), Small Woman-Owned Businesses (SWOB), Historically Underutilized Business Zone (HUBZONE) firms, and Minority Serving Institutions (MSIs) under the proposed effort as evidenced by the following elements:

  - The extent to which such firms are specifically identified in proposals.
  - The extent of commitment to use such firms.
  - The complexity and variety of the work such firms are to perform.
  - The Offeror's past performance in complying with the requirements of the clauses at FAR 52.219-8, FAR 52.219-9 and DFARS 252.219-7004.
  - The extent of participation of such firms in terms of the value of the total acquisition.

All Offerors, to include small businesses and MSIs, will be evaluated under this factor (excluding element #4 for small businesses.)

All Offerors (except for small businesses) will also be required to submit a Subcontracting Plan in accordance with FAR 52.219-9 and DFARS 252.219-7004, which is to reflect the elements listed above. The offeror's Subcontracting Plan must be acceptable for the Offeror to be eligible for award.

Factor 6 – Past Performance

Evaluation of this factor includes an assessment of the Offeror's ability to perform under the contract successfully based on past performance information. The Government will gather information on past performance from the references provided by the offeror (See Section L and Attachment 13 to the Solicitation.) The Government will use this information and information obtained on its own to assess the Offeror's past performance. Potential sources of information include, but are not limited to, contract references independently identified by the Government and databases which are maintained by commercial and/or Government entities. The burden of disproving the validity of a negative finding rests solely with the Offeror evaluated.

Past Performance in connection with compliance with the requirements of the clauses at FAR 52.219-8, FAR 52.219-9 and DFARS 252.219-7004 will be evaluated under the evaluation factor entitled: Extent of Participation of Small Businesses, Small Disadvantaged Businesses and HBCU/MIs.

Offerors without a record of past performance will not be evaluated favorably or unfavorably on past performance.

Factor 7 – Cost

The cost proposal will be evaluated to determine whether the cost is realistic and reasonable for the effort to be performed.

RELATIVE IMPORTANCE OF EVALUATION CRITERIA

The following describes the relative importance of the evaluation factors:

The Evaluation Factors are listed in descending order of importance. Factor 1 is significantly more important than Factor 2. Factor 2 is slightly more important than Factor 3. Factors 4, 5 and 6 are relatively the same level of importance, and are somewhat less in importance than Factor 3. Factor 7 carries no relative importance, but may be considered in determining the best value to the Government.

AWARD DECISION

The award will be based on an integrated assessment of each offeror's ability to satisfy the solicitation requirements. The Government anticipates discussions, however, the Government reserves the right to award without discussions. Discussions may include a visit of the proposed core site to verify those aspects of the offeror's proposal. If discussions are held, a competitive range will be established such that any such discussions will be held only with Offerors whose proposals were determined to have a reasonable chance of receiving an award. If discussions are held, Offerors in the competitive range will be invited to submit Final Proposal Revisions which will be evaluated using the same evaluation procedures as were used with the initial proposals. The Government will make the awards to the Offeror conforming to the solicitation that offers the best value to the government, cost and other factors considered. Furthermore, the award may be made to other than the Offeror(s) who offers the lowest cost proposals or to other than the best technical proposals.